

Clinical Practice Review Moisture-associated skin damage

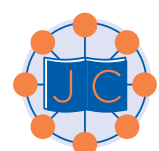
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In this article...

- Patient safety initiatives to improve the assessment and reporting of pressure ulcers
- How to distinguish between a pressure ulcer and moisture-associated skin damage
- Why reporting of moisture-associated skin damage is important

Incontinence-associated dermatitis 3: systems for reporting skin damage



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Key points

Pressure ulcer data collection is reported at local and national level

Moisture-associated skin damage is a risk factor for pressure ulcers

Local reporting of this damage enables the extent of the problem to be identified and steps to be taken to ensure appropriate management

Improved identification and management will contribute to pressure ulcer reduction

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Abstract Moisture-associated skin damage – in particular, incontinence-associated dermatitis – is a risk factor for pressure ulceration. The two problems can occur independently in the same patient but require different treatment regimens. This final article in this three-part series describes current reporting systems for pressure ulceration and explains why moisture-associated skin damage has been included. Risk factors for incontinence-associated dermatitis are discussed in part 1, while part 2 focuses on strategies to maintain and support skin function.

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Pressure ulcers have an adverse effect on patients' health and quality of life so their prevention, or accurate diagnosis and management when they do occur, are vital to ensure safe and effective care; however, this is challenging for health professionals (Rutherford et al, 2018). Moisture-associated skin damage (MASD) – and in particular incontinence-associated dermatitis (IAD) – are often misdiagnosed as pressure damage and inappropriately reported at a local and national level. This misdiagnosis has implications for patients who may receive the wrong treatment, which can not only delay healing, but also lead to further skin breakdown.

Pressure ulcer reporting

In recent years there has been a focus on the incidence and prevalence of pressure ulcers and several initiatives have been introduced to reduce this avoidable harm.

The NHS Safety Thermometer

The NHS Safety Thermometer (safetythermometer.nhs.uk) provided a 'temperature check' on harm from pressure ulcers,

which could be used alongside other indicators – such as falls, venous thromboembolism and catheter-associated urinary tract infections – to measure progress in providing a harm-free care environment for patients. It allowed wards, teams and organisations to measure risk of harm during their working day – for example, at shift handover, during wards rounds or in other settings such as patients' own homes.

In the author's opinion, the thermometer system had its limitations and worked better in acute ward settings than in community services. It required organisations to count – on a given day each month – the number of new and existing pressure ulcers. However, some trusts opted out of using the system, which meant there was no clear picture of the extent of the problem as not every organisation was reporting in the same way.

Following a consultation in 2019/20, national collection of NHS Safety Thermometer data ceased in April 2020. This was a response to concerns about the burden of data collection on clinical staff and to focus attention on new improvement initiatives.

Box 1. Pressure ulcer definition and measurement framework

- A pressure ulcer is defined as “localised damage to the skin and/or underlying tissue, usually over a bony prominence (or related to a medical or other device), resulting from sustained pressure (including pressure associated with shear). The damage can be present as intact skin or an open ulcer and may be painful”
- A pressure ulcer that has developed due to the presence of a medical device should be referred to as a medical device-related pressure ulcer
- A pressure ulcer that has developed at the end of life due to skin failure should not be referred to as a Kennedy ulcer
- Organisations should follow the current system of categorising that is recommended in international guidelines – National Pressure Ulcer Advisory Panel et al (2014) – incorporating categories 1, 2, 3 and 4, including deep-tissue injury and unstageable pressure damage
- A pressure ulcer on admission is defined as a pressure ulcer that is observed during the skin assessment undertaken on admission to that service
- A new pressure ulcer within a setting is a pressure ulcer that it is first observed during the current episode of care
- MASD should be counted and reported in addition to pressure ulcers
- Where skin damage is caused by a combination of MASD and pressure, it should be reported based on the category of pressure damage

MASD = moisture-associated skin damage.
Source: Adapted from NHS Improvement (2018a)

Pressure ulcer framework

A revised pressure ulcer definitions and measurement framework has been designed by NHS Improvement (2018a) (Box 1). It was developed to:

- Standardise the reporting of pressure ulcers locally and nationally;
- Ensure quality-improvement methods are used to inform changes in practice and improve patient outcomes.

The recommendations were designed to be applied locally, with an expectation that full roll-out would occur in April 2019; trusts in England adopted the guidance, although some were delayed but the delay was supported by NHSI.

In the past, not all trusts reported on suspected deep-tissue injury or unstageable pressure ulcers, but these are now included in reporting (NHSI, 2018a). NHSI also recommends that all moisture damage is reported locally, but agreement is required on what level or types of moisture damage – the different types of which are outlined in Box 2 – should be included. This is decided collaboratively and usually involves heads of nursing and tissue viability teams. Improved identification and management of MASD will contribute to pressure ulcer reduction as it is a high-risk factor for pressure, shear and friction forces on vulnerable skin (see Part 2).

Many education tools – such as React to Red (NHS England, 2015), which is aimed at care home providers – incorporate incontinence as a risk factor, and the aSSKING framework (NHSI, 2018b) also

highlights the importance of identifying MASD.

NHS Commissioning for Quality and Innovation framework 2020/21

A new Commissioning for Quality and Innovation (CQUIN) 2020/21 framework, including assessment and documentation of pressure risk assessment, was introduced this year. It is expected to:

- Contribute to a reduction in the number of pressure ulcers nationally;
- Improve standards of care for residents in nursing homes (NHS England, 2020). Patients to be included are community hospital inpatients and NHS-funded residents in care homes. The requirement is that 60% of adult inpatients or residents will:
 - Receive a validated pressure ulcer risk assessment;
 - Have an individualised plan of care based on this assessment.

This requires staff to have adequate knowledge about pressure-related skin damage and MASD to ensure pressure damage is accurately diagnosed.

Due to the coronavirus pandemic, the CQUIN 2020/21 framework has been temporarily suspended but management of patient's skin during this time must continue to be a priority for all health professionals providing patient care.

Categories of MASD and reporting

MASD is the umbrella term for four clinical manifestations of the condition, which are outlined in Box 2.

Box 2. Types of MASD

Intertriginous dermatitis

- Occurs wherever two skin surfaces come into close contact with each other (Black et al, 2011)
- Common sites include under the breasts and, in children, it can be found in the folds of the neck (Voegeli, 2016)
- Related to perspiration, friction and bacterial/fungal bioburden
- In obese individuals, the skin folds are more pronounced and intertriginous dermatitis is often found in the abdominal or pubic panniculus (Voegeli, 2016)

Periwound MASD

- Wound exudate contains proteolytic enzymes that damage the stratum corneum
- Chronic wounds produce fluid with higher levels of proteolytic enzymes (Voegeli, 2016)
- The volume of exudate increases when infection is present (Vowden et al, 2015)
- Wound assessment and management includes correct product selection for exudate containment and barrier products for the periwound skin

Peristomal MASD

- Commonly associated with colostomies and ileostomies (Voegeli, 2016; Gray et al, 2013)
- Occurs when the surrounding skin comes into contact with liquid discharge from the stoma, leading to inflammation and excoriation
- Management includes:
 - Selecting appropriate containment devices
 - Patient education in self-care
 - A good skin care regimen

Incontinence-associated skin damage

- The most commonly recognised form of MASD
- Caused by urine and/or faeces (Beeckman, 2017)
- Faeces contain enzymes that damage the stratum corneum (Mugita et al, 2015)
- Liquid faeces cause more damage than solid faeces as the enzymes are more destructive (Campbell et al, 2016)
- Skin damage is usually found in the perianal area, although it can extend farther depending on the degree of the incontinence, speed and frequency with which the contaminants are removed from the skin (Beeckman, 2015)

MASD = moisture-associated skin damage.

Clinical Practice Review

The revised reporting system established by NHSI – as outlined in NHSI (2018a) – encourages organisations to include all four types of MASD in local reporting systems as analysing incidents and clusters can lead to targeted education and better management in both acute and community settings. Some trusts have adopted separate categories for each type of MASD in their reporting, while others only report on incontinence-associated damage (IAD), which is the most common type (see Part 1). Specialist clinicians, such as tissue viability nurses, can help identify errors in categorisation of pressure ulcers and IAD, leading to more accurate pressure ulcer data.

The exact prevalence of IAD is not known and misdiagnosis, especially as a result of incorrectly distinguishing between IAD and category 2 pressure ulceration, is common. Clinicians are often faced with confusion and uncertainty when trying to diagnose superficial damage on the sacrum, which could be due to pressure damage, IAD or a combination of both (National Pressure Ulcer Advisory Panel et al, 2014).

IAD is a recognised risk factor for pressure ulceration and the two conditions can coexist in an individual (Lachenbruch et al, 2016). Other risk factors, such as reduced mobility, which often coincide with incontinence, increase the incidence of pressure ulceration as the skin is fragile and vulnerable to forces such as shear and friction. The differences between pressure ulcers and moisture lesions are outlined in Table 1.

Accurate diagnosis of IAD

Misdiagnosis of IAD as pressure ulceration results in incorrect reporting both locally and nationally. Assessment tools that can help to identify moisture lesions include:

- The Perineal Assessment Tool (Nix, 2002);
- The Perirectal Skin Assessment Tool (Storer-Brown, 1993);
- IAD Skin Condition Assessment Tool (Kennedy et al, 1996);
- Incontinence-associated Dermatitis and its Severity (IADS) instrument (Borchert et al, 2010);
- The National Association of Tissue Viability Nurses Scotland's skin excoriation tool (Healthcare Improvement Scotland, 2018).

However, these should be used with caution as they do not accurately assess patient risk (Beekman, 2015) (see Part 2).

A baseline continence assessment is essential to identify the incontinence type,

Table 1. Differences between pressure ulcers and moisture lesions

	Pressure ulcer	Moisture lesion
Causation	Usually pressure and/or shear are present	Moisture is usually present
Location	More than likely over bony prominences	Less likely over bony prominences
Shape and edge	Usually distinct edging and shape	Usually diffuse, rarely more than superficial
Depth	Superficial or deep	Superficial
Necrosis	May be present	Never present

Source: Defloor et al (2005)

“The exact prevalence of IAD is not known and misdiagnosis, especially as a result of incorrectly distinguishing between IAD and category 2 pressure ulceration, is common”

as well as the underlying cause. Types of incontinence fall into three categories:

- Faecal incontinence (diarrhoea/formed stool);
- Double incontinence (faecal and urinary);
- Urinary incontinence.

When trying to distinguish between pressure damage and IAD, it is important to assess:

- Frequent episodes of incontinence (especially faecal);
- Use of occlusive containment products;
- Poor skin condition;
- Compromised mobility;
- Diminished cognitive awareness;
- Poor personal hygiene;
- Pain;
- Pyrexia;
- Medication (immunosuppressants, antibiotics);
- Poor nutrition;
- Critical illness.

The location of skin damage should also be considered; areas at risk of IAD include:

- Perineum;
- Perigenital areas;
- Buttocks;
- Gluteal fold;
- Thighs;
- Lower back;
- Lower abdomen and skin folds (groin, under large abdominal panniculus).

These areas should be checked for the following signs of IAD:

- Maceration;

- Erythema;
- Presence of lesions (vesicles, papules, pustules);
- Erosion or denudation;
- Signs of fungal or bacterial skin infection.

The assessment and management of MASD is explored in detail in part 2.

Case study

Mary Ellis (not the patient's real name) is 57 years old and has spina bifida. She is a wheelchair user and lives with her husband, who is the main carer at home. She has loss of sensation below the waist and an ileal conduit. Mrs Ellis is reviewed annually at the spinal injuries hospital but otherwise attends her GP practice with any health problems. She has support from her husband, but is independent and leads a full life, including going on holiday, to the theatre and on shopping trips.

Presenting symptoms

In November 2018, Mr Ellis told the specialist nurse practitioner at the GP surgery that he had noted a “crater” on his wife's left buttock area that had “discharge and hardness on the surrounding skin”. Mrs Ellis was unaware of this as she had no sensation in the area. She preferred to care for her own hygiene needs but had been unaware that she was not removing faecal matter correctly from the skin after bowel care, and now has IAD.

Assessment and diagnosis

On assessment by the GP, two pressure ulcers were identified with necrotic tissue and purulent exudate, which was malodorous. The pressure ulcer categories were unstageable but highly likely to be category 4 once the non-viable tissue in the wound bed was debrided. Antibiotics were prescribed as the wound had clinical signs of spreading infection such as induration

and increasing erythema; Mrs Ellis was showing signs of systemic infection – she experienced a loss of appetite and was feeling unwell.

According to the International Wound Infection Continuum, systemic and topical antimicrobials are recommended at the point of spreading infection (Haesler and Ousey, 2018). IAD was also identified on the surrounding skin on the buttocks and thighs, with severe excoriation. Dressings were prescribed for the pressure ulcer, including an antimicrobial primary dressing, autolytic debridement of the slough and necrosis, and absorbency to protect the periwound edges. A barrier cream was also prescribed for the IAD, which was applied every 72 hours according to manufacturer's instructions, after cleansing the skin with water and a pH-balanced cleanser.

A referral was made to the district nurses to provide a plan of care for Mrs Ellis at home, along with a referral to the surgical acute service to assess whether debridement and repair was required. The district nurses visited Mrs Ellis at home and completed a full holistic assessment including a thorough skin inspection. A referral to the tissue viability nurse was also made.

An aSSKING risk assessment tool, which was developed locally by the tissue viability nurses and derived from NHSI's (2018b) aSSKING education curriculum, identified that Mrs Ellis spent long periods in her wheelchair. There was a pressure-relieving cushion provided by wheelchair services but this was inadequate. The presence of IAD also made her skin very vulnerable to breakdown when moving from

“Management strategies for pressure ulcers and MASD should not be considered in isolation”

chair to bed, with evidence of skin damage caused by shearing across her thighs and buttocks. She slept in a double divan bed with her husband without a pressure-relieving mattress.

Treatment

The local pathway for IAD was implemented; as the skin was broken a wash cleanser and barrier cream were prescribed, which addressed the problem caused by faecal enzymes on the skin. The aim of pressure ulcer treatment was debridement of purulent slough, and a topical negative pressure wound system was applied to the cavity to remove exudate and help reduced periwound excoriation.

Additional carer support was discussed, and it was agreed that help would be provided for hygiene needs and prevention of further IAD. Following discussion with Mrs Ellis, a profiling bed with dynamic air mattress was put in place and regular bed rest was commenced with a repositioning plan. Once the IAD had resolved, a daily skin care plan was in place for carers to follow and a barrier product was prescribed.

Outcome

The IAD resolved once the treatment plan was commenced and the pressure ulcer continued to heal after 10 months of management by district nurses and Mrs Ellis performing pressure relief. Her skin condition is being maintained through appropriate skin care, incontinence management and appropriate pressure relief.

Conclusion

With the introduction of the new definitions and measurement framework for pressure ulcers, it is now possible for health professionals to collect evidence and data for all types of MASD including IAD. Management strategies for both pressure ulcers and MASD need to be addressed and they should not be considered in isolation. It is important to detect skin damage in the early stages, whatever the cause – pressure or moisture – as this allows for preventative treatment plans to be put in place to stop further skin deterioration. There is a need for ongoing education and training in this area, alongside pressure ulcer prevention. **NT**

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