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- Moisture-associated skin damage as a risk factor for pressure ulcers
- How incontinence-related skin damage occurs
- Prevention and management strategies

Pressure ulcer education 6: incontinence assessment and care



Key points

Excessive moisture on the skin can cause damage, increasing the risk of pressure ulcers

The most common cause of moisture-associated skin damage is incontinence-associated dermatitis

Pressure ulcers and incontinence-associated dermatitis are often confused with each other but differ in location and shape

Identifying patients at risk from excessive moisture and instigating early skin protection is key to preventing skin damage

Effective treatment also relies on identifying the underlying cause of the excessive moisture

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Abstract Assessing the patient and Identifying skin damage associated with increased moisture, often caused by incontinence is an essential part of good skin care. Excessive moisture on the skin due to factors such as urinary and/or faecal incontinence or wound exudate greatly increases the risk of pressure ulcers, so moisture-associated skin damage is now reported alongside pressure ulcers. This article – the sixth in an eight-part series on developing a core education curriculum for pressure-ulcer prevention and management – describes how incontinence-related, moisture-associated skin damage occurs, outlines other causes of moisture-related skin damage and details key factors for prevention and management.

Citation Fletcher J (2020) Pressure ulcer education 6: incontinence assessment and Care. *Nursing Times* [online]; 116: 3, 42-44.

Moisture-associated skin damage (MASD) is not a direct cause of pressure ulcers, but its presence contributes to weakening of the skin and increases local friction (objects rubbing together) and shear (forces moving in different directions). As such, it is recognised that moisture on the skin greatly increases the risk of pressure ulcers, and MASD is now reported alongside them (NHS Improvement, 2018). For these reasons, identifying through assessment and managing MASD is an integral part of aSSKING, the new educational framework for pressure ulcer prevention and management, described in part 1 of this series (Fletcher, 2019).

Types

There are four main types of MASD:

- Incontinence-associated dermatitis (IAD);
- Intertriginous dermatitis (ITD), involving inflammation of the skin folds relating to perspiration;
- Periwound MASD due to wound exudate;

- Peristomal MASD caused by leakage from stoma edges.

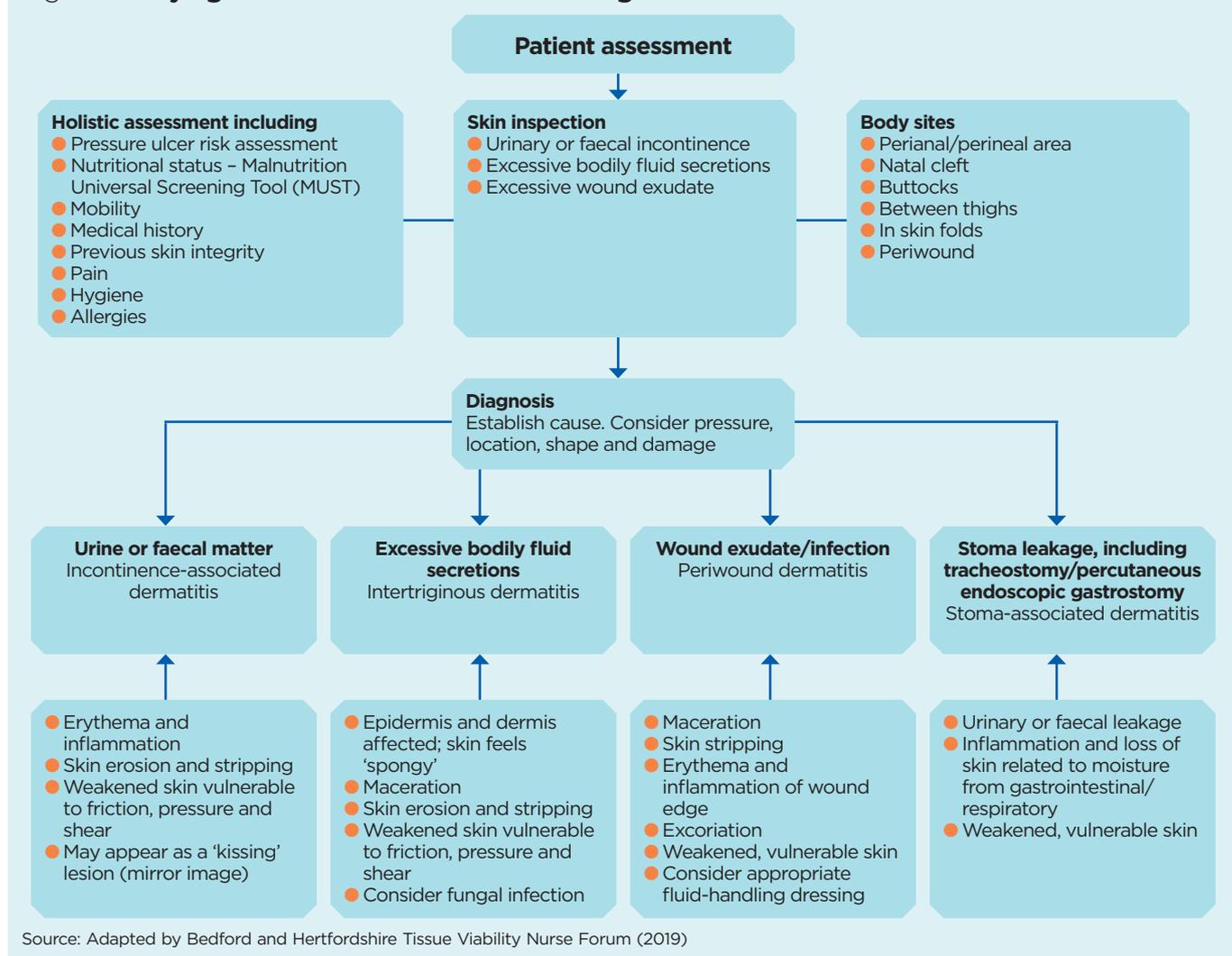
Careful patient assessment is needed to identify the source or potential source of the damage, and clarify the severity, location, moisture type and any other irritants. Fig 1 outlines the MASD identification process.

IAD is by far the most common type of MASD, although its frequency varies by setting and populations studied. Prevalence is estimated at 5.7-22.8% and incidence at 3.4-50% (Gray et al, 2012); however, patients' reticence to report incontinence due to embarrassment, added to the fact that IAD is commonly confused with other types of skin damage (for example, a category 2 pressure ulcer), means its frequency is likely to be underestimated.

The aSSKING framework

The Incontinence and Increased Moisture module of the aSSKING framework aims to ensure nurses understand incontinence and increased moisture, and how they affect the skin. It does this by:

Fig 1. Identifying moisture-associated skin damage



Source: Adapted by Bedford and Hertfordshire Tissue Viability Nurse Forum (2019)

- Addressing how incontinence-related skin damage occurs;
- Differentiating between aetiologies associated with incontinence;
- Highlighting differences between other causes of moisture-related skin damage;
- Clarifying how increased moisture increases the likelihood of skin damage from shear and friction;
- Outlining appropriate prevention and management strategies.

Incontinence-associated dermatitis

IAD (also known as perineal dermatitis or nappy/diaper rash) is a type of irritant contact dermatitis found in patients with faecal and/or urinary incontinence. The presence of urine and or faeces leads to over-hydration, which causes swelling and disrupts the structure of the stratum corneum (outer layer of the skin), leading to

visible skin changes (for example, maceration/breakdown). This can make it easier for irritants to penetrate the superficial layers of the skin, resulting in inflammation. Over-hydrated skin is also more susceptible to damage from superficial shear – its ‘rougher’ surface means it is more likely to stick to bedding or clothing, which makes it more difficult for the body to move and greatly increases cell deformation and shear forces.

The presence of urine on the skin makes the local pH more alkaline as skin bacteria converts urea in the urine to ammonia; this allows micro-organisms to multiply, increasing the risk of localised infection.

Faeces (particularly liquid faeces) may damage the skin as they contain lipolytic (lipid-digesting) and proteolytic (protein-digesting) enzymes capable of damaging the stratum corneum. These enzymes also interact with the urea to produce ammonia, further increasing the pH seen

with urinary incontinence. Enzymes are more active at a higher pH, so the risk of skin damage increases with these alkaline changes. This could explain why the combination of urine and faeces in mixed incontinence is more irritating to the skin than urine or faeces alone.

As IAD often occurs in combination with pressure ulcers, it is vital for nurses to be able to distinguish between the two conditions. Key distinctions include:

- Location – pressure ulcers are generally found over bony prominences whereas IAD is generally found across wide areas of the buttocks, genitals and inner thigh;
- Shape – pressure ulcers tend to be singular and have distinct edges, whereas IAD usually presents as multiple lesions that have irregular edges (Fig 2).

Other distinguishing features are shown in Table 1.

Fig 2. Incontinence-associated dermatitis



Preventing skin damage

With all types of MASD, preventing skin damage is paramount. This involves:

- Identifying whether any sites on a patient's skin are at risk from the presence of moisture;
- Instigating early skin protection using

barrier products such as creams or films. Just as important is treating the cause of the excessive moisture – for example, identifying why a patient is incontinent or why a wound is producing excessive exudate.

A simple skin cleanser (with a neutral pH) should be used; soaps with perfumes

or additives should be avoided as they can strip the skin's natural oils and alter the local pH balance. For patients with occasional incontinence, simple moisturisers (again, unperfumed and without additives) may be sufficient to protect the skin but, in most cases, a skin barrier is also required, be it a cream or film product. These should be applied according to the manufacturer's instructions, allowing plenty of time for the product to dry before replacing clothing or repositioning the patient on the affected area.

If a fungal infection is suspected (characterised by a dry, pale-pink or white area that is frequently itchy) a topical anti-fungal should be used. Moisturiser should be applied if the skin is dry.

Conclusion

Understanding the cause of MASD is important to instigate the appropriate treatment plan but, whatever the cause, the following actions are crucial:

- Identify patients at risk from MASD;
- Relieve or reduce the source of moisture;
- Clean and dry the skin;
- Protect the skin.

Following this simple formula will help prevent and manage MASD for patients at risk, and avoid or relieve the pain and suffering associated with the condition. **NT**

Table 1. Distinguishing between pressure ulcers and incontinence-associated dermatitis

Parameter	Incontinence-associated dermatitis	Pressure ulcer
History	Urinary and/or faecal incontinence	Exposure to pressure/shear
Symptoms	● Pain ● Burning ● Itching ● Tingling	Pain
Location	● Perineum and perigenital area ● Buttocks ● Gluteal fold ● Medial and posterior aspects of upper thigh ● Lower back ● May extend over bony prominence	Usually over a bony prominence or associated with location of a medical device
Shape/edges	● Affected area is diffuse with poorly defined edges ● May be blotchy	Distinct edges or margins
Presentation/depth	Intact skin with erythema (blanchable or non-blanchable), with/without superficial partial-thickness skin loss	● Presentation varies from intact skin with non-blanchable erythema to full-thickness skin loss ● Base of wound may contain non-viable tissue
Other	Secondary superficial skin infection (for example, candidiasis) may be present	Secondary soft tissue infection may be present

Source: Beekman et al (2015)

References

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