Understanding types of moisture-associated skin damage (MASD): prevention, identification and management

made easy

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Introduction

Moisture-associated skin damage (MASD; also known as moisture lesions) is classified as irritant contact dermatitis. It develops from prolonged exposure of the skin to various sources of moisture and irritants, such as urine, faeces, intestinal fluids, digestive secretions, mucus, saliva, perspiration and wound exudate. In more severe cases it can lead to superficial skin loss. MASD is encountered across a range of healthcare settings and patient populations. Prevention and management require early identification of at-risk individuals, prompt intervention to address the underlying cause of moisture exposure and implementation of appropriate skin protection strategies. This Made Easy summarises the key recommendations from the Fletcher et al (2025) Best Practice Statement *Understanding Types of Moisture-Associated Skin Damage (MASD): Prevention, Identification and Management*.

Types of MASD

MASD is an umbrella term with four categories:

- **Incontinence-associated dermatitis (IAD)**
  Occurs when the skin is exposed to urine, faeces or both. The combination of moisture, friction and chemical irritation can lead to inflammation and skin breakdown, particularly in the perineal and buttock regions (Beeckman et al, 2015).
- **Peristomal complications**
  Occurs when stoma effluent comes into contact with the surrounding skin. Leakage from the stoma appliance can cause irritation, inflammation and skin erosion, affecting appliance adherence and patient quality of life.
- **Intertriginous dermatitis (intertrigo)**
  Develops in skin folds where opposing skin surfaces create a warm, moist environment. Common sites include the groin, axillae, abdominal folds and beneath the breasts. Friction, perspiration and microbial overgrowth may contribute to skin damage. Fungal infection is common.
- **Periwound moisture-associated damage**
  Occurs when wound exudate remains in contact with the skin surrounding a wound. Excess moisture can lead to maceration, skin breakdown and enlargement of the wound area if not managed effectively.

Some fluids, such as saliva and perspiration, may also cause skin damage but do not fit neatly into these categories.

Skin damage involves more than bodily fluids alone. It is influenced by chemical irritants within the moisture source (e.g. proteases and lipases in faeces, drug metabolites), pH, microorganisms on the skin surface (e.g. commensal flora) and mechanical factors such as friction.

Assessing skin: what to do for every patient

All patients at risk of, or presenting with, MASD should have a full baseline skin assessment, ideally in a warm, private room. Perform a head-to-toe inspection – start at the head and neck, move down the torso, examine the arms and legs and finish at the perineal and sacral areas. Consider the factors in **Table 1**.

Skin tone: look beyond redness

In **light skin [Figure 1a]**, redness may appear as red or pink and may or may not blanch.

In **dark skin [Figure 1b]**, redness may appear as purple, maroon, darker or paler, with a subtle sheen. Look for texture change and loss of normal skin markings. Skin may feel warm, firm or tender. Compare with adjacent skin, palpate, and ask about itch, pain, burning or tingling. Hyperpigmentation or hypopigmentation may also occur, especially in chronic or healing stages, with no visible redness (Beeckman et al, 2015; Harte and Marshall, 2025).



Figure 1. Examples of IAD on the buttocks in a (a) light skin tone and (b) dark skin tone. Images courtesy of Luxmi Dhoonmoon.

Table 1. Key considerations when assessing patients at risk of, or presenting with, MASD (adapted from Fletcher et al, 2025).

Assessment category	Key considerations
Demographics and background	Age, sex, mobility, self-care ability and ethnicity/skin tone
Presenting complaint	Onset, duration and progression of skin changes; location(s) and triggers (e.g. appliance, skin folds, perianal area); symptoms such as itching, burning, pain, odour, leakage and exudate
Past medical history/ comorbidities	Diabetes, obesity, malnutrition, inflammatory skin conditions and continence issues (urinary/ faecal incontinence, stoma, catheter or diarrhoea)
Surgical/device history	Previous surgeries or stoma formation; current or previous devices (e.g. indwelling catheter) or dressings affecting the skin
Medication history	Drugs affecting skin integrity (e.g. steroids, chemotherapy, antibiotics and diuretics); recent medication changes (e.g. antibiotics)
Allergies and sensitivities	Adhesives, cleansers, barrier products and latex
Nutrition and hydration	Dietary intake, weight loss and hydration status
Social/functional factors	Dexterity, cognition, continence self-management, caregiver support and hygiene practices

Shared principles for MASD management

In the Best Practice Statement, the expert panel identified five core principles of MASD prevention and treatment that apply to all four types (Fletcher et al, 2025; **Figure 2).**

1. Cleanse gently

- Cleansing is the first step in prevention and management. It maintains hygiene and enables skin assessment
- Use gentle, pH-balanced cleansers. After cleansing, pat the skin dry; avoid rubbing to reduce friction and irritation
- Inspect skin regularly using visual and tactile checks and patient-reported symptoms
- If infection risk is high or erythema persists, consider short-term antiseptic cleansing per local policy.

2. Control moisture

- Too much moisture causes maceration; too little causes dry, cracked skin
- Use absorbent dressings or moisture-wicking fabrics, balance hydration with barrier protection, and adjust the care plan to the individual's moisture levels.

3. Treat fungal involvement

- Fungal overgrowth (*Candida* spp.) commonly coexists with MASD in warm, moist areas such as skin folds and under dressings or stoma appliances
- Signs include satellite pustules, shiny erythema with clear edges, or poor response to standard skin care



Figure 2. Five core principles of MASD prevention and treatment (Fletcher et al, 2025)

- Apply topical antifungals once or twice daily, and continue for several days after symptoms resolve
- Consider adjuncts (e.g. antimicrobial cleansers for local breakdown or multimodal dressings like enzyme alginogels® when infection and inflammation coexist)
- Reassess regularly and escalate if there is no improvement.

4. Protect skin barrier

- Urine, faeces, saliva and mucus, along with mechanical trauma (adhesives, friction), can cause irritation and breakdown
- Barrier films, gels or creams form a protective film that limits contact with effluent and reduces transepidermal water loss. Apply after cleansing and drying
- If infection is suspected or the area is considered high risk, use appropriate antimicrobial protection. Consider antifungal or corticosteroid agents or multimodal products with antimicrobial protection (e.g. an enzyme alginogel®).

5. Manage associated symptoms

- Itch (pruritus) is a frequent but under-recognised symptom. The itch–scratch cycle keeps inflammation going, damages the barrier and affects sleep and wellbeing
- Reduce exposure to irritants, use emollients and barrier products, and offer comfort measures (cool compresses, breathable clothing)
- Treat fungal involvement first if suspected, as unresolved candidiasis can worsen itching
- For severe symptoms consider short-term topical corticosteroids under clinical supervision.

Did you know?

Enzyme alginogels® absorb excess exudate, promote autolytic debridement and provide antimicrobial protection against a broad spectrum of microbes, including *Candida* spp. (De Smet, 2009; Cooper, 2013; Jones et al, 2018; Flen Health, 2021).

Scan the QR code for more information

The importance of differentiation

Accurate assessment is important because MASD can resemble other skin conditions, including pressure ulcers, skin tears and infection-related skin damage. Misclassification may result in inappropriate treatment and delayed healing. Clinicians should consider the location, pattern of skin damage, moisture source and patient history when making a diagnosis **[Table 2]**.

Table 2. Differentiating incontinence-associated dermatitis (IAD) from pressure ulcers (adapted from Fletcher et al, 2025).

Features	Incontinence-associated dermatitis (IAD)	Pressure ulcers
Aetiology	Prolonged exposure to urine and/or faeces	Pressure or shear forces acting on the skin and underlying tissues
Location	Typically areas exposed to moisture (e.g. perineum, perigenital region, buttocks, gluteal folds, thighs and lower back)	Typically over bony prominences (e.g. heels, sacrum/coccyx, ears and elbows) or under medical devices
Symptoms/signs	Pain; itching or scratch marks; burning and tingling sensation	Primarily painful. Some people may have limited sensation if the ulcer is deep and nerve endings are damaged
Clinical presentation	Erythema (blanchable/non-blanchable) in light skin; may appear darker or purple with a subtle sheen in darker skin; frequent multiple lesions with diffused edges; skin may feel warmer or firmer; maceration; erosion; visible signs of moisture-related damage; secondary superficial skin infection (e.g. candidiasis)	Non-blanchable erythema; may appear as darker or purplish areas in darker skin, with warmth, firmness or tenderness; usually single lesion with clear demarcation; ulceration; wound base may contain non-viable tissue; secondary soft tissue infection may be present
Colour	Redness/discolouration (in darker skin tones, redness may not be visible; look for darker, purple or blue areas); uneven discolouration; pink or white surrounding skin	Red granulation tissue; soft/black necrotic tissue; sloughy tissue; non-blanching redness/ discolouration; blue/purple discolouration
Injury type	Requires the presence of a source of moisture often in combination with friction	Requires the presence of pressure, friction and shear
Depth	Usually superficial or partial-thickness tissue loss, but may be full-thickness following prolonged exposure (over days) to effluent	Ranges from unbroken skin (Category 1) through to full-thickness tissue loss with bone exposure (Category 4)

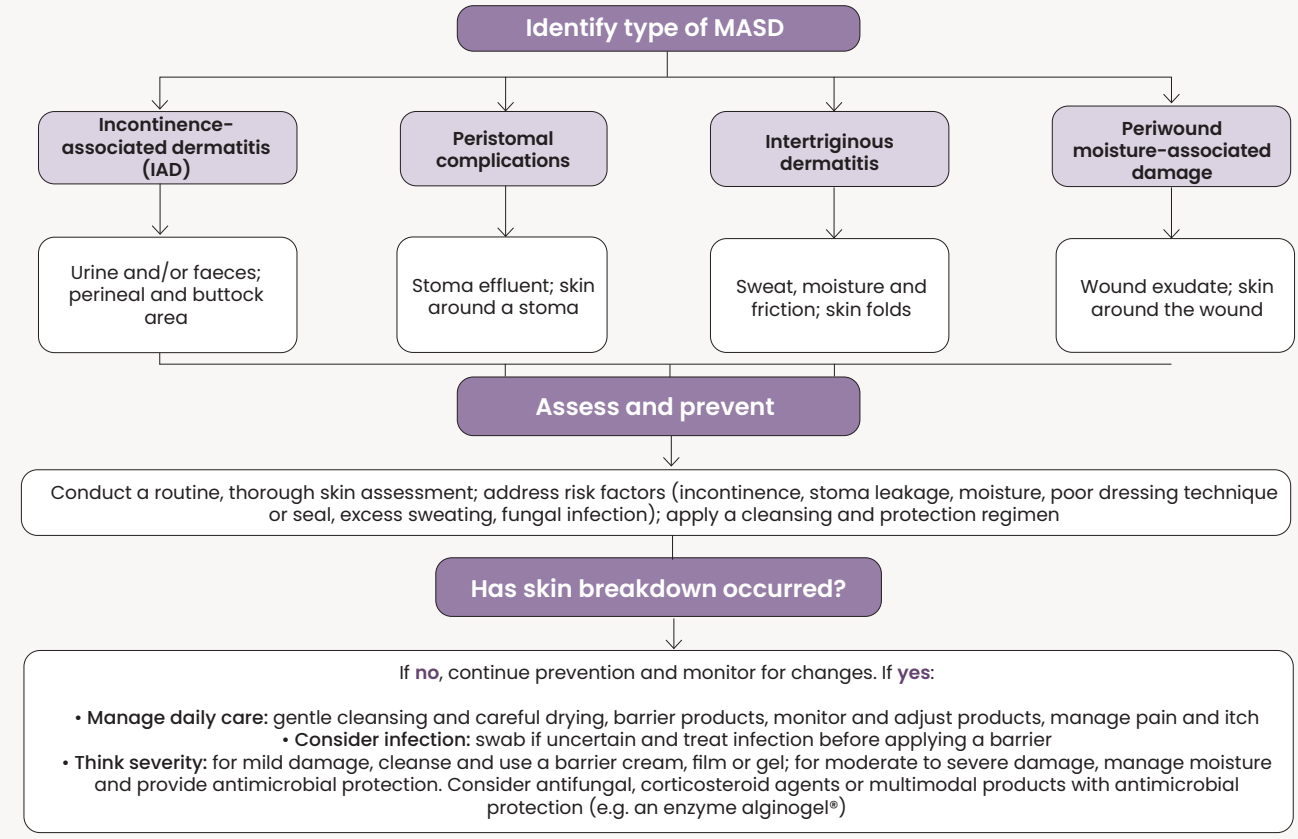
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Clinical pathway for the identification, prevention and management of moisture-associated skin damage (MASD).

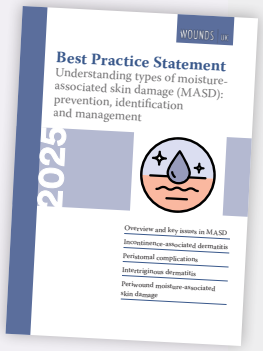
Conclusion

There are common factors underpinning all forms of MASD. It is not the presence of moisture alone that causes damage, but the complex interplay of chemical irritants in bodily fluids, sustained occlusion, friction and a compromised skin barrier, leading to inflammation and tissue breakdown.

Early and accurate assessment, including visual inspection and attention to discomfort, malodour and changes in skin texture, is essential. Monitor for signs of fungal infection, particularly in intertrigo and peristomal skin, where targeted antifungal management may be needed. In cases with significant breakdown, high exudate or infection, multimodal dressings that combine antimicrobial protection, exudate management and debridement, such as enzyme alginogels®, may add therapeutic value.

Ultimately, MASD should be viewed as a preventable condition through early recognition, patient education, appropriate skin care routines, evidence-based product selection and timely specialist input to reduce its burden and improve outcomes across all care settings.

Scan the QR code to access the Fletcher et al (2025) Best Practice Statement *'Understanding Types of Moisture-Associated Skin Damage (MASD): Prevention, Identification and Management'*



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