

This decision support tool is intended primarily for front-line clinicians. It is provided for guidance only and does not replace the judgment of the clinician performing the activities reserved to him or her by law or regulation. This document has been designed on the basis of clinical recommendations developed by the INESSS using a systematic approach and supported by the scientific literature as well as by the knowledge and experience of clinicians from different specialties and areas of expertise. The content of this tool excludes newborns and young children. Tools to guide wound assessment and the determination of healing potential, as well as decision support on an optimal treatment plan based on wound etiology, vascular supply, and infectious risk, tissue type and exudate quality, are also provided, along with a reminder of dressing specifics. For further details, visit inesss.qc.ca.

PATHOPHYSIOLOGY

- Maceration of the outer layer of the epidermis caused by chronic exposure of the skin to body fluids (e.g., perspiration, urine, faeces, exudate) or frequent cleaning.
- Diffuse shape, with the possibility of partial or total loss of **superficial skin layers**, accompanied by burning, tingling, itching or numbness.
- May be confused with or coexist with stage I and II pressure injuries.
- Often associated with a strong odor, unlike pressure ulcers.



⚠ *To the best of our knowledge, the most common moisture-associated skin injuries are intertriginous dermatitis and incontinence dermatitis.*

SUMMARY

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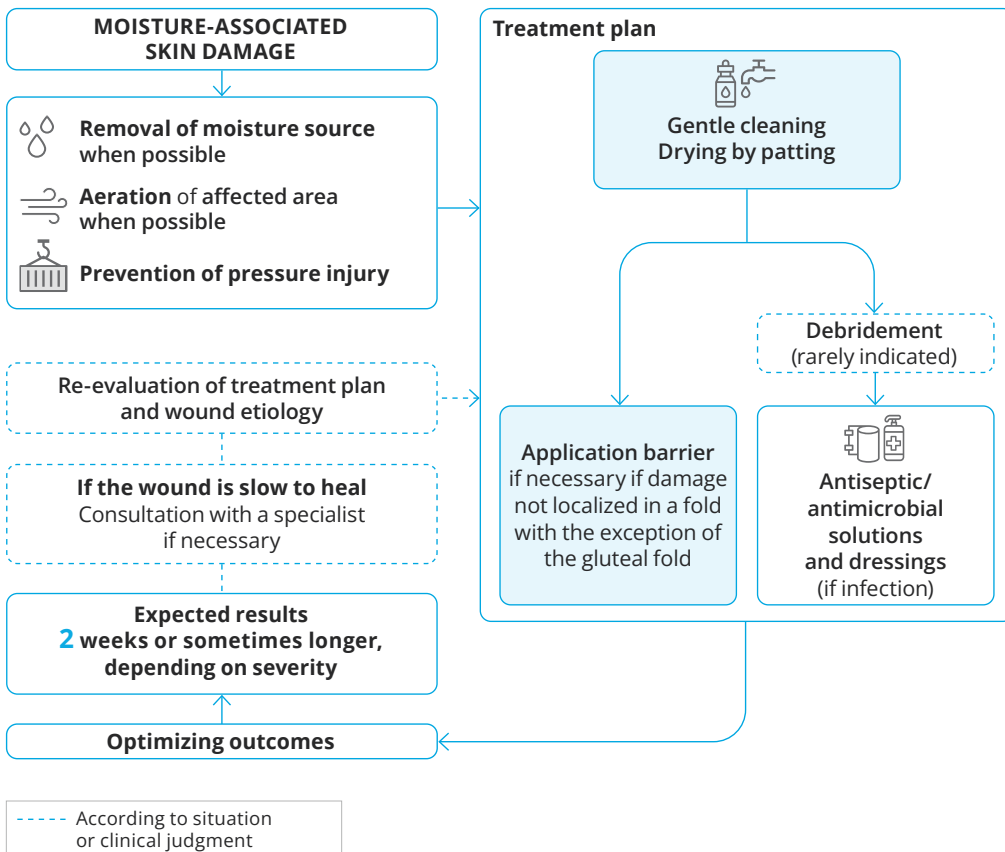
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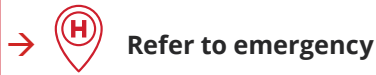
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TREATMENT PRINCIPLES



CLINICAL EMERGENCY

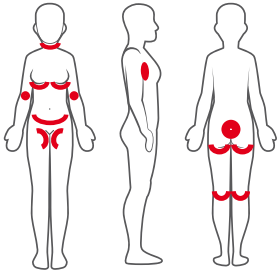
- [Signs of sepsis](#)
- [Infected gangrene](#)
- [Necrotizing fasciitis](#)
- [Cellulitis/lymphangitis with warning signs](#)



Refer to emergency

HOLISTIC EVALUATION OF THE INDIVIDUAL

! Evaluate and, if necessary, control pain.

1	Medical history	Expected location	Vascular status
	<ul style="list-style-type: none"> • Ask the individual or family members about the wound, lifestyle, and health. • Check relevant history of lab testing results according to the individual's characteristics. • Document wound location. 	 <ul style="list-style-type: none"> • Area in chronic contact with a source of body moisture • Intergluteal fold • Fatty apron • Skin folds 	<ul style="list-style-type: none"> • Not systematically evaluated. • Consider if: <ul style="list-style-type: none"> - Excessive moisture under a lower-limb orthosis. • Consult, if necessary, the vascular assessment in the following document: Wound Assessment and Determination of Wound Healability Decision Support Tool.

2	Causes and risk factors of moisture-associated skin damage	
	Causal factor <ul style="list-style-type: none"> • Chronic exposure to a source of humidity • Mechanical force on macerated epidermis 	
	Risk factors <ul style="list-style-type: none"> • Fecal incontinence • Urinary incontinence • Fever • Hyperhidrosis • Advanced age • Malnutrition - Obesity or underweight • Dehydration • Diabetes • Immobility, paraplegia, spinal cord injury 	<ul style="list-style-type: none"> • Allergens and irritants • Immunosuppression • Use of incontinence products without airflow • Reduced cognitive capacity • Lymphedema • Inadequate hygiene and living conditions • Inadequate social support

3	Paraclinical examinations and laboratory analyses	
	→ Appreciation of nutritional status	• Appreciation of indicators contributing to skin damage

DETERMINING HEALABILITY

- Moisture-associated skin damage is generally a curable wound unless it is concomitant with another etiology.
- Consult the [Wound Assessment and Determination of Wound Healability Decision Support Tool](#) to determine whether the wound is **curable**, under **maintenance**, or **incurable**.

WOUND PREPARATION PRIOR TO EVALUATION

⚠ Inflamed epidermis **without skin breakage** does not require wound preparation before evaluation.

CLEANSING IF SKIN BREAKAGE

- ✔ If skin is open, cleanse with large quantities of aqueduct water or physiological solution (NaCl 0.9%) at room or body temperature. For further details on methods, please refer to the cleansing section of the decision support tool for the [treatment plan according to wound etiology, vascular supply, infectious risk, tissue type and exudate amount](#).

DEBRIDEMENT IF SKIN BREAKAGE

- ✔ **Removal of moist necrosis**, debris, foreign bodies, or blood clots that prevent wound evaluation, using tweezers or a pressure stream of aqueduct water or physiological solution.

WOUND ASSESSMENT

→ [Wound assessment](#) should take into consideration the following:

1	Appearance of wound and surrounding skin	Identification of tissue type and exudate type	Identify symptoms and signs of an infected wound or biofilm		
	<ul style="list-style-type: none"> Parameters such as size and depth are ideally quantified before, during, and after treatment for accurate wound monitoring. Visible structures are also documented. Pain, whether absent or intense, may indicate an urgent clinical condition linked to severe infection. 	<ul style="list-style-type: none"> Tissue type influences subsequent steps. The type of exudate, together with other clinical symptoms and signs, or with other factors, helps to identify clinical conditions that are urgent (e.g., severe infection) or less urgent (e.g., presence of underlying disease). 	<ul style="list-style-type: none"> Clinical observations are generally sufficient, and wound culture is not recommended. <table border="1"> <tr> <td> Local infection <ul style="list-style-type: none"> Can be fully managed by front-line health professionals. Involves bacterial or mycotic infection </td> <td> Deep soft-tissue infection <ul style="list-style-type: none"> Not usually seen in this type of wound. If present, immediate management by an experienced colleague. </td> </tr> </table> <p>Clinical tools for evaluating the severity of infection of moisture-associated skin damage:</p> <ul style="list-style-type: none"> Scottish Ropper scale GLOBIAD tool 	Local infection <ul style="list-style-type: none"> Can be fully managed by front-line health professionals. Involves bacterial or mycotic infection 	Deep soft-tissue infection <ul style="list-style-type: none"> Not usually seen in this type of wound. If present, immediate management by an experienced colleague.
Local infection <ul style="list-style-type: none"> Can be fully managed by front-line health professionals. Involves bacterial or mycotic infection 	Deep soft-tissue infection <ul style="list-style-type: none"> Not usually seen in this type of wound. If present, immediate management by an experienced colleague. 				
2	Exposure of deep structures (e.g., tendons, nerves or bone)				
	<p>Moisture-associated skin damage is generally localized in the superficial layers of the skin. If deep structures are exposed, suspect a concomitant pressure injury, deep infection, or other more atypical etiology.</p> <p>It is advisable to:</p> <ul style="list-style-type: none"> Consult a specialist department or experienced colleague for specific management advice. <ul style="list-style-type: none"> Keep the exposed area moist, avoiding maceration. 				

🚫 Things to watch out for if skin breaks

- Explore the wound with a sterile metal stilet to assess depth and presence of underlying sinuses and, if localized on bony prominence, to exclude any bony contact.

REMOVING THE SOURCE OF MOISTURE AND PREVENTING MOISTURE-ASSOCIATED SKIN DAMAGE

- **Removing the source of moisture from the wound is the first priority in the treatment of moisture-associated skin damage.**
- When removal of the moisture source is not possible, regular cleansing of the irritant, use of a protective barrier, incontinence garments or the establishment of an elimination routine are usually necessary.
- To prevent the **appearance of an pressure ulcer**, consult the [decision support tool](#) specific to this etiology.

DETERMINE TREATMENT PLAN BASED ON VASCULAR SUPPLY, INFECTIOUS RISK, TISSUE TYPE, AND EXUDATE AMOUNT

! Control pain as required

- Treatment plan steps by tissue type can be viewed by clicking on the underlined tissue type.
- The information below complements the specific treatment plan for moisture-associated skin damage.



TISSUE TYPE

Macerated Tissue



- If another tissue type is present in the wound, consult the decision support tool for a [treatment plan based on wound etiology, vascular supply, infectious risk, tissue type and exudate quantity](#).


CHOICE OF CLEANSING AND DEBRIDEMENT

	Without skin breakage	With skin breakage
 <p>Cleansing</p>	<ul style="list-style-type: none"> • Gently clean with soft wipes pre-moistened with a skin emollient or a mild cleanser that does not require rinsing. • Do not use soap. • Do not rub skin. • Once clean, pat skin dry. 	<ul style="list-style-type: none"> • Aqueous water or physiological solution (NaCl 0.9%) in large quantities and at room or body temperature. • If wound is highly exudative or incontinent, also clean surrounding skin, avoiding friction. • Alcohol-free antiseptic/antimicrobial solutions or other product if local infection in skin break.
 <p>Debridement</p>	<ul style="list-style-type: none"> • Rarely part of the treatment plan for moisture-associated skin damage, as necrosis is usually absent. <p>If skin breakdown occurs, edges can be reshaped, necrosis, infection and excess exudate can be debrided with:</p> <ul style="list-style-type: none"> ✓ Conservative sharp wound debridement preferred in curable wounds and in maintenance. ✓ Mechanical debridement to be considered. For further details, consult the debridement section of the decision support tool for a treatment plan based on wound etiology, vascular supply, infectious risk, tissue type and exudate quantity. • Autolytic, enzymatic, and chemical debridement should be avoided, as they are inadvisable in cases of infection or if the surrounding skin is macerated. If autolytic debridement is necessary, use a product that allows greater absorption of exudate. 	

APPLICATION OF AN ANTISEPTIC/ANTIMICROBIAL SOLUTION

Local infection or presence of biofilm	Therapeutic use <ul style="list-style-type: none"> If local infection is confirmed or the presence of biofilm is clinically suspected. <i>Consult antiseptic/antimicrobial solutions for details.</i> If mycotic infection, choose an antimycotic agent in cream, ointment, or powder form.
	Prophylactic use <ul style="list-style-type: none"> Not generally recommended unless one of the clinical situations described above applies. <i>Consult reasons for prophylactic use of antiseptic/antimicrobial solutions.</i>

DRESSING CHOICE

 Dressings	Without skin breakage	With skin breakage
	General <ul style="list-style-type: none"> Incontinence dermatitis and no infection: <ul style="list-style-type: none"> Use a barrier product (alcohol-free liquid polymer, paste, cream, ointment) to be reapplied according to the frequency of exposure to body fluid. Leave the inflamed area undressed as much as possible. A permeable secondary dressing may be applied to protect clothing from the skin barrier. Intertriginous dermatitis (skin fold): <ul style="list-style-type: none"> Place a product that transfers moisture to the outside of the skin fold (e.g., commercial textile impregnated with silver and known for its use in treating intertrigo). 	General <ul style="list-style-type: none"> Depending on exudate amount: light ●, moderate ●●, high ●●●. Depending on compatibility with the barrier product if its use is envisaged around the exudative ulcer to avoid maceration of the surrounding skin. Use semi-occlusive dressings as suggested in the treatment plan. A hydrophilic paste dressing is preferable for areas that are difficult to dress, such as the gluteal fold. Use a dressing that prevents the passage of stool and urine under the dressing. Consider the anatomical location of the wound to avoid friction.
	Local infection <ul style="list-style-type: none"> Antimicrobial dressings Antimycotic products if mycosis suspected (e.g., <i>Candida albican</i>) 	

OPTIMIZING OUTCOMES

- Moisture-associated skin damage may take a long time to heal or may recur until the source of the moisture has been ruled out.
- It is important to evaluate, in addition, other [possible underlying causes](#) of the signs and symptoms observed.

CARE RELATED TO MOISTURE-ASSOCIATED SKIN DAMAGE

Managing the source of moisture	Reducing friction in affected areas Discharging to avoid surrounding pressure	Protection of the skin	Optimization : • nutrition (important aspect) • hydration
Prevention of infection	Control of comorbidities: • malnutrition – obesity or underweight • diabetes • spasticity	Social, physical and psychological support	

INFORMATION TO BE GIVEN TO THE PATIENT AND FAMILY

General

- Maintain good personal hygiene.
- Do not use soap to clean the inflamed area. Use wipes or other products as advised.
- Limit exposure of the inflamed area to the irritant by changing the incontinence garment as soon as it is soiled or institute elimination routines to avoid contact of stool and urine with the seat.
- Warning sign when friction from a dressing or other device is noticed in the inflamed area.
- Eat a healthy diet and drink enough water. A consultation with a dietician-nutritionist is often useful to promote a healthy diet.

Skin care

- Good hygiene of surrounding skin with a soft wipe or similar. Dab dry.
- Leave the damaged area in the open air as much as possible unless the skin is broken.
- If skin damage is located elsewhere than in a skin fold, lubricate dry, unbroken surrounding skin with an emollient.

Frequent and regular inspection of the wound, the surrounding skin and, especially if obese/undernourished or incontinent, skin folds:

- by a healthcare professional or
- by the individual or family.

MONITORING AND FOLLOW-UP

! Evaluate and, if necessary, control pain.

DRESSING CHANGE/FREQUENCY

If incontinence, replace the product used after each episode.

Any soiled or detached dressing should be changed, and the frequency of changes increased.

Non-infected wounds	<ul style="list-style-type: none">Wear dressing according to manufacturer's maximum recommended duration or clinical judgment.
Infected wounds	<ul style="list-style-type: none">Regular dressing changes, depending on wound properties, the individual's condition and, above all, the action mechanism of the dressing/antimicrobial product.

WOUND MONITORING TECHNIQUES

1. **Clinical visual indicators** with photographs taken if equipment available.

2. **Calculated clinical indicators** ([reduction in wound area](#)).

Symptoms and signs of local, deep soft-tissue, or systemic infection are looked for in addition to taking photos or measuring wound-area reduction at follow-up.

CONSULTATION WITH SPECIALIST

CLINICAL SITUATIONS REQUIRING CONSULTATION WITH A SPECIALIST

- Severely infected ulcer
- Uncontrollable pain
- No significant improvement after **2 weeks** despite appropriate treatment
- Persistent infection despite appropriate treatment; a microbiologist-infectiologist should be consulted
- Recalcitrant intertriginous dermatitis

INTERDISCIPLINARY TEAM

- The treatment plan implemented by the care team (nurses, physicians, podiatrists if the wound is located on a foot, occupational therapists, physiotherapists) could benefit from the intervention of other healthcare professionals, depending on needs and availability of resources in the community - e.g., dietitian-nutritionist.

MAIN REFERENCES

- References are presented in the INESSS [report](#) associated with this tool.