

Incontinence-Associated Dermatitis, Moisture-Associated Skin Damage, and Pressure Ulcer Prevention:

The benefits of a consistent skin care regimen
using lanolin products



INTRODUCTION

“ By ensuring that the skin is kept clean, dry, and moisturized, caretakers can greatly reduce a patient’s risk of developing IAD, MASD, or pressure ulcers. ”

Incontinence-associated dermatitis (IAD), moisture-associated skin damage (MASD), and pressure ulcers are common conditions affecting the skin. These afflictions represent a significant drain on healthcare resources and dramatically affect quality of life for patients. IAD, MASD and pressure ulcers can be a major source of discomfort and be quite costly, both for healthcare providers and for the patients themselves. Yet, in many cases, their incidence and prevalence can be reduced through a consistent skin care regimen using specially formulated products such as those containing lanolin. By ensuring that the skin is kept clean, dry, and moisturized, caregivers can greatly reduce a patient’s risk of developing IAD, MASD, or pressure ulcers.¹

How are IAD, MASD, and Pressure Ulcers related?

Although each of these terms define separate conditions with unique causes and treatment options, they often occur together, and for similar reasons. Pressure ulcers develop when pressure or shear forces damage the skin or underlying tissue, usually over a bony prominence.² However, moisture is often a factor in the development of pressure ulcers. Excess moisture, such as from perspiration or incontinence, increases skin permeability and can compromise its ability to form an effective barrier. This can make it more susceptible to the damaging forces that cause pressure ulcers. Similarly, IAD and other forms of MASD are damage to the skin caused by incontinence or conditions that result in increased moisture, respectively.² These conditions frequently overlap when incontinence or other sources of moisture increase the risk of pressure ulcers developing.

All of these conditions are tied to the integrity of the skin. Prevention is critical and can be accomplished by following a consistent skin care regimen, with desired results often seen by using lanolin-enriched skin care product formulations. Lanolin mimics the human skin lipid functions, helping to maintain skin integrity.^{1,9,13}

How specially formulated products containing lanolin can help

Leading medical bodies and researchers recommend consistent skin care regimens to help reduce the incidence of IAD, MASD, and pressure ulcers.^{1,2,9} However, healthcare providers can go further to prevent these conditions by using specially formulated products such as those containing lanolin. A wide body of research suggests that lanolin helps in the prevention and healing of IAD, MASD, and pressure ulcers through a range of effects, including mollification, barrier formation, emulsification, anti-inflammation, and antimicrobial properties.^{1,4,6,7} These effects may reduce the risk of IAD, MASD, and pressure ulcers, aid in their healing, and provide some amount of palliative treatment for symptoms.

This paper was created for healthcare professionals to provide guidance on skin care best practices and further explore the benefits of using specifically formulated skin care products containing lanolin.



THE IMPORTANCE OF PREVENTION

“ The high prevalence of IAD, MASD, and pressure ulcers can translate to significant costs and complications for both patients and healthcare providers. ”

IAD, MASD, and pressure ulcers are extremely common conditions, particularly among the elderly and the bed bound individuals. In one recent survey of hospitals, it was found that as many as 26.7% of patients suffered from pressure ulcers, while another study of one hospital found an MASD rate of approximately 11.5%.^{8,9} Incontinence is often a factor in the development of pressure ulcers or other forms of skin damage. Some researchers estimate that as much as half of the nursing home population is incontinent of urine or feces.³ This presents a significant problem, as many patients are subject to prolonged contact with moisture, significantly affecting their skin integrity and leading to a greater risk of damage.

Costs and complications

The high prevalence of IAD, MASD, and pressure ulcers can translate to significant costs and complications for both patients and healthcare providers. These conditions are a major cause of morbidity and mortality, and require significant care.¹¹ It is estimated that pressure ulcers cost approximately \$9.1 to \$11.6 billion per year in the United States alone, and that costs range from \$20,900 to \$151,700 per ulcer treated.¹⁰ Although IAD and MASD often do not directly have the same high costs, they are linked to the formation of pressure ulcers. Given this association, a reduction in these conditions could be logically assumed to help control costs associated with pressure ulcers.⁹

These conditions can also significantly affect the quality of life of patients, leading to discomfort, complications, and even death. In fact, about 60,000 patients die as a direct result of pressure ulcers every year.¹⁰ Other common complications include pain, infection, depression, and sepsis.¹¹ In many cases these complications or the ulcers that caused them are preventable. This has led patients to file more than 17,000 pressure ulcer related lawsuits annually.¹⁰ By improving skin care regimens and reducing the incidence of these complications, healthcare providers can potentially improve the quality of life of their patients and reduce liability risk.

Pressure ulcers, IAD, and MASD are costly



Number of pressure ulcer related lawsuits	17,000 each year
Costs of treating one pressure ulcer	\$20,900 to \$151,700
Total U.S. pressure ulcer treatment costs per year	\$9.1 billion to \$11.6 billion

Identifying at-risk individuals

In order to prevent IAD, MASD, and pressure ulcers, it is important to first identify those that are at the greatest risk. These conditions can affect a wide range of patients and are influenced by many factors. By identifying at-risk patients and using an effective skin care regimen on these individuals, the relative incidence of these conditions may be reduced.

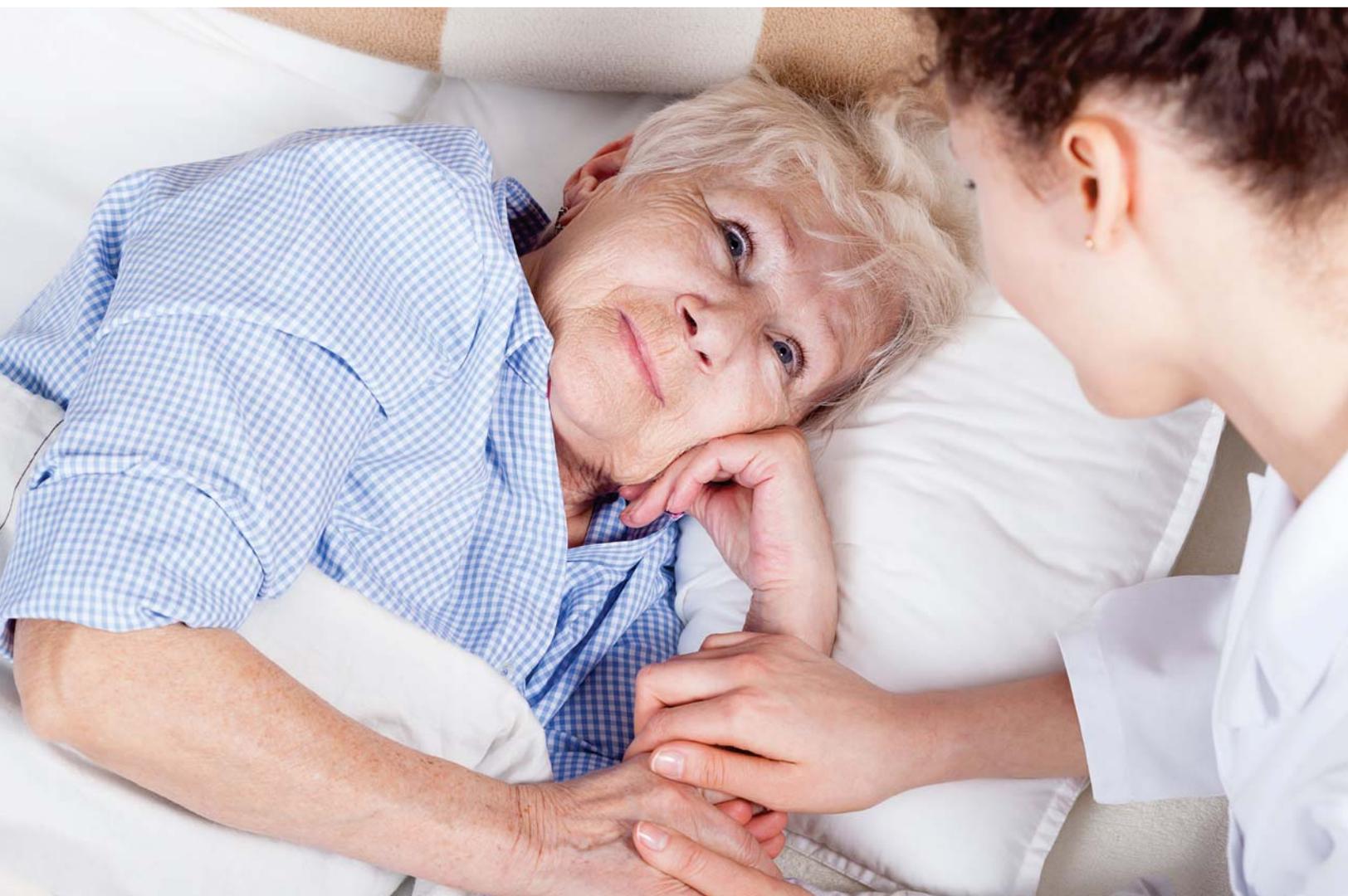
Pressure Ulcers - The National Pressure Ulcer Advisory Panel (NPUAP), a leading authority on pressure ulcer prevention and treatment, provides a list of several general recommendations for assessing the risk of pressure ulcers for individuals. They cite mobility limitations, existing pressure ulcers, current condition of skin (including skin moisture, nutrition, and oxygenation), age, sensory perception, body temperature, presence of IAD or MASD, and general health as factors when evaluating at-risk individuals. The Braden Scale and the Norton Scale are also widely used tools for identifying individuals who are at risk of developing pressure ulcers.¹

IAD and MASD - The elderly, those with a history of incontinence, those with chronic wounds, and those who suffer from conditions which limit their mobility are all more susceptible to either IAD or MASD.³ Taking steps to ensure hygiene and treat susceptible areas can greatly reduce the risks of potential problems.

BENEFITS OF A CONSISTENT SKIN CARE REGIMEN

“ Consistent skin care is critical to preventing IAD, MASD and pressure ulcers. ”

Consistent skin care is critical to preventing IAD, MASD and pressure ulcers. Cleaning, moisturizing, protecting, and treating problems are all components of effective skin care, allowing healthcare providers to reduce the prevalence and incidence of these problems significantly. As many as 95% of pressure ulcers are preventable using these and other techniques.¹² By implementing standardized, consistent skin care procedures and educating practitioners on the relationship between IAD, MASD, and pressure ulcers, some hospitals have been able to significantly reduce the incidence of pressure ulcers.^{1,8,13}



Components of an effective skin care regimen

Every skin care regimen should have several key components in order to ensure it is effective. By taking efforts to keep the skin dry and clean, and prevent irritation from excessive pressure, healthcare professionals can minimize the conditions leading to IAD, MASD, and pressure ulcers.^{1,2,13}

Positioning - Healthcare providers should make efforts to avoid positioning the patient on an area of erythema whenever possible. These areas may be highly susceptible to damage from pressure and must be treated gently. Bony prominences are also more susceptible to damage from pressure, and must be treated with care.

Cleaning Skin - Skin should be gently cleansed with pH balanced products, specifically formulated for at-risk skin. This is particularly important in preventing IAD, in which skin may be in regular contact with pH imbalanced fluids, making it more susceptible to damage. Skin should be cleansed promptly after any episode of incontinence. Efforts should also be made to avoid damaging any skin that is at risk of developing a pressure ulcer.

Moisturizing Skin - Patients with dry skin are also more susceptible to IAD, MASD, and pressure ulcers. Moisturizing may help reduce this risk and provide a palliative reduction in irritation for the patient.¹

Protecting Skin - Excessive exposure to moisture significantly weakens the skin, often leading to IAD, MASD, or pressure ulcers. One of the primary goals of healthcare providers should be to ensure that at-risk patients are protected from this risk. This may involve regularly cleaning any moisture from the skin and using a barrier product to limit exposure.

THE BENEFITS OF LANOLIN

“ By using specially formulated skin care products such as those containing lanolin, it is possible to improve the effectiveness of skin care programs. ”

Implementing a program of consistent skin care for at-risk individuals can significantly reduce the incidence of IAD, MASD, and pressure ulcers. However, by using specially formulated skin care products such as those containing lanolin, it is possible to improve the effectiveness of these programs.

Lanolin is a naturally occurring substance, produced by the sebaceous gland of wool covered animals. It has many characteristics that make it an extremely effective skin care agent, allowing it to clean, moisturize, and protect simultaneously.

Mollification - Lanolin is an effective emollient, reducing skin roughness and providing positive moisturizing effects, critical elements of effective skin care. Studies show that it can reduce surface roughness by approximately 35% after being applied for one hour, and by 50% after two hours. The effects will then last for longer than eight hours, depending on conditions.⁴ Lanolin forms a semi-occlusive barrier on the skin, creating a moisturizing effect that may last up to three days after application. This effect may be due, in part, to the barrier film forming a secondary moisture reservoir with the skin.⁶

TEWL prevention - Lanolin has properties similar to human stratum corneum lipids and can hold up to 200% of its own weight in water. Like human stratum corneum lipids, which play a critical role in the moisture control of human skin, lanolin is made up of liquid crystalline material and the multilamellar vesicles it forms are exactly the same as those formed by stratum corneum lipids. This makes it an ideal choice for controlling transepidermal water loss (TEWL) which may cause skin to become dry, irritated, and more susceptible to IAD, MASD, and pressure ulcers.^{4,6,7}

Emulsification - The compounds which make up lanolin are polar. This makes it an ideal cleaning agent, able to bind water effectively. Lanolin's polarity also allows it to deliver moisture to the skin and distribute it evenly into the intercellular space of the stratum corneum.⁵

Barrier formation and repair - When skin is subject to excessive moisture or other less than ideal conditions, its natural barriers begin to function less effectively. This can ultimately lead to more significant damage, including pressure ulcers. Lanolin helps to repair this barrier and reduce symptoms such as dryness, cracking, scaling, itching, and pain. This can both reduce the further degradation of skin integrity, possibly preventing pressure ulcers from forming, and improve the patient's quality of life.⁴

Antimicrobial properties - Areas suffering from IAD, MASD, or pressure ulcers are often susceptible to infection. Although it has not been proven, lanolin may help reduce this risk, as it has been shown to have antimicrobial properties.⁴

Anti-inflammatory properties - Reducing the incidence and prevalence of IAD, MASD, and pressure ulcers is only part of the objective of consistent skin care. It is also important to ensure that those who suffer from these conditions are as comfortable and pain free as possible. Lanolin has been proven to have significant anti-inflammatory properties, helping to reduce discomfort.¹⁴



Lantiseptic® offers a more effective, consistent skin care regimen using Lanolin

“ Lantiseptic® is one of the most effective solutions to help reduce the prevalence and incidence of IAD, MASD, and pressure ulcers. ”

Lantiseptic® is a range of skin care products specially formulated with lanolin, a natural emollient that provides a moisture barrier to help maintain skin integrity and reduce skin breakdown. This lanolin-enriched product line is ideal for incontinent skin, pressure ulcer prevention, and reddened or ulcer-prone skin. It encourages the proper moisture balance of the skin, thereby supporting the body's natural healing process. Each product contains lanolin and is formulated to fill a unique role in an effective skin care regimen, from cleansing, to moisturizing, to protecting. This makes Lantiseptic® an effective solution to help reduce the prevalence and incidence of IAD, MASD, and pressure ulcers.

Consistency and Quality

Lantiseptic® products can be used in every step of an effective skin care regimen. This allows caregivers to achieve more consistent results and know that they are providing effective care to their patients at every step of the process.

Clean - Lantiseptic® no rinse, pH-balanced products gently clean, revitalize and protect. These products are designed for optimal cleansing to remove irritants which may cause rashes and other skin problems. The No-Rinse Cleansing Foam and 3-n-1 Wash Cream are both strong enough to clean, yet gentle enough to maintain the skin's moisture balance.

Moisturize - The Lantiseptic® skin creams soften and moisturize vulnerable skin, making them ideal for targeted use or every day care. The Nourishing Skin Cream temporarily protects and conditions to promote healthier looking skin. The 30% lanolin formulation in Dry Skin Therapy is uniquely suited for the maintenance and protection of severely dry skin.



Protect - The unique Lantiseptic® barrier products provide long lasting protection and help maintain skin integrity. The Original Skin Protectant, with its 50% lanolin formulation, provides a moisture barrier that helps prevent skin irritations and protects chafed skin due to incontinence. The Protective Ointment temporarily protects and helps relieve chafed, chapped or cracked skin and lips. It also helps treat and prevent incontinence-associated dermatitis.

Treat - Lantiseptic® CaldaZinc ointment provides a moisture barrier that prevents and helps heal minor skin irritation from urine, diarrhea, hemorrhoids, cuts, itching and others.

Lanolin-based products

Every Lantiseptic® product is enriched with lanolin and is formulated to encourage the proper moisture balance of the skin, thereby supporting the body's natural healing process. This can help improve skin cleanliness, keep skin moisturized longer, provide proper protection and maintain skin integrity.



SERIOUS SKIN CARE SOLUTIONS

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