Urinary and Fecal Incontinence Management:
Maintaining Skin Health and Preventing Incontinence-Associated Dermatitis and Chronic Skin Conditions
Incontinence is a significant and growing problem for healthcare professionals. As the population ages, a growing number of patients are suffering from urinary incontinence, fecal incontinence or both. According to recent estimates, as many as 50% of elderly patients and 60% of elderly female patients suffer from either urinary or fecal incontinence. This makes incontinence one of the most common conditions afflicting older adults.\(^1\) The severity of its prevalence along with its effects on skin health make it a major challenge for healthcare professionals, particularly those working in long-term care and other environments dealing with older individuals.

This paper will provide guidance on skin care best practices and illustrate the benefits of using specially formulated lanolin products for patients with urinary and fecal incontinence.
Incontinence is the inability to control excretory functions. It takes two general forms: fecal incontinence and urinary incontinence. Fecal incontinence is the inability to control defecation, while urinary continence is the inability to control the flow of urine from the bladder.¹

The effects of incontinence on skin health
Each of these conditions can have significant and far ranging impacts on skin health, particularly when patients suffer from both simultaneously. The most common of these effects is exposure to excessive moisture. This can cause moisture-associated skin damage (MASD) after extended periods. Effluent from the ileum or transverse colon also contains digestive enzymes and urine contains ammonia, which can further damage the skin.²

Among the most common of the conditions is incontinence-associated dermatitis (IAD) and pressure injuries. IAD is defined as skin inflammation associated with exposure to urine or feces. It is often manifested as blistering, erosion or loss of skin barrier function and is sometimes referred to as perineal dermatitis or diaper rash.³ Although the current World Health Organization’s International Classification of Diseases contains coding for diaper dermatitis, it does not offer a separate coding for IAD. This lack of a specific definition for IAD has sometimes made it difficult for healthcare professionals to develop a consistent method for diagnosis and treatment.⁴

Prevalence of IAD, MASD and pressure injuries
In one recent survey of hospitals, it was found that as many as 26.7% of patients suffered from pressure injuries, while another study of one hospital found an MASD rate of approximately 11.5%.²⁵⁶ Although a lack of internationally accepted methods for identification of IAD means that there is a wide variation in reported prevalence of the condition, it is an extremely prevalent issue and it is important that nurses and other healthcare practitioners have a strong clinical knowledge of incontinence so they can take steps to prevent skin damage before it occurs.
**Financial effect of IAD and pressure injuries**

IAD and pressure injuries can be incredibly costly for patients and healthcare providers. These conditions are a major cause of morbidity and mortality, and require significant care. It is estimated that pressure injuries 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 injury treated. Although MASD and IAD often do not directly have the same high costs, they are linked to the formation of pressure injuries. Given this link, a reduction in these conditions could be logically assumed to help control costs associated with pressure injuries.

It is also important for healthcare practitioners to be able to differentiate between IAD and pressure injuries. Recently, the Centers for Medicare and Medicaid services have revised their payment systems to deny reimbursement for expenses that involve preventable complications during hospitalization. Pressure injuries are one such complication subject to this revision. However, IAD is not subject to the new rule, so the ability for a healthcare professional to recognize the difference between IAD and pressure injuries can make a significant financial difference.

**What causes incontinence?**

Urinary and fecal incontinence have a wide range of causes that healthcare professionals should be aware of in order to identify risk factors and address problems before they develop into more serious conditions. Medication, complications from childbirth, hydration, and pre-existing conditions can all affect an individual's risk of incontinence.

**Complications associated with age** - Older patients’ bladders are more likely to have decreased capacity and increased involuntary contractions compared to younger patients. Decreased estrogen levels may also contribute to lower periurethral and vaginal collagen, leading to atrophy in the vagina and urethra. This can inhibit a woman’s ability to control the flow of urine from her bladder.
Effects of medication - Certain medicines can cause fecal or urinary incontinence. Diuretic medications can increase the urgency and frequency with which individuals need to urinate, while alpha-blockers can weaken urethral muscles.\(^9\)

Pre-existing conditions - Diabetes is shown to affect incontinence in a wide range of ways, causing polyuria, urinary tract infections and other problems associated with incontinence. During and after childbirth, women can also experience incontinence. Stress incontinence can put pressure on the bladder and bowels, leading to increased urges to express the bowels or bladder. Injuries that occur during childbirth can also weaken the muscles in the urethra, leading to prolonged incontinence.\(^9\)
Consistent skin care is critical to preventing the negative effects of incontinence. Cleansing, 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 injuries are preventable using these and other techniques including routine turning and repositioning of patients, effective offloading and interventions including the support of adequate nutritional intake. By implementing standardized, consistent skin care procedures and educating practitioners on the relationship between IAD, MASD, and pressure injuries, some hospitals have been able to significantly reduce the incidence of pressure injuries.

How products containing lanolin help
A regular skin care regimen using lanolin helps maintain skin integrity and reduces skin damage from conditions associated with urinary and fecal incontinence such as pressure injuries, xerosis, pruritus, delayed wound healing, and infection. Maintaining skin integrity is extremely important and one of the many benefits of specially formulated products containing lanolin, as it mimics the human skin lipid functions.
Although incontinence itself may be uncontrollable in many situations, healthcare professionals can still take significant steps to ensure that its effects on skin health are minimized. By identifying at-risk patients and implementing a proactive skin care regimen, it is possible to significantly reduce the incidence and severity of IAD. It is best to prevent skin damage rather than treat it when it occurs. This is especially true in incontinence-affected areas such as the perineum and sacrum. This can have significant implications for the ability of healthcare professionals to reduce their workload, control costs and improve patient outcomes.\textsuperscript{11,12,13}

**MANAGEMENT STRATEGIES**

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**ASSESSING SKIN FOR SIGNS OF IAD**

Identifying IAD is the critical first step in caring for incontinence-affected skin. In order to effectively diagnose and treat patients, healthcare professionals must be able to differentiate between IAD, pressure injuries and other skin damage. Common signs of IAD include maceration, erythema, vesicles, papules, pustules, skin erosion or signs of fungal or bacterial infection. IAD can also be categorized based on severity. Category 1 IAD includes skin that is red with signs of erythema or edema, but that is fully intact. Category 2 IAD includes the symptoms of Category 1 IAD in addition to lesions, skin infection, or skin breakdown.\textsuperscript{12}
Moisture damage vs. pressure damage

Identifying the difference between skin damage from incontinence and from pressure injuries can make a significant difference in coding, treatment and billing. IAD is often called a “top down” injury, wherein damage is inflicted from the top of the skin down. Pressure injuries, on the other hand, are considered “bottom up” injuries, where damage is inflicted from below the skin, usually by pressure from bony prominences. Some common differentiations between IAD and pressure injuries are history, symptoms, location of the injury, and injury appearance. IAD generally occurs with pain, burning and itching, whereas pressure injuries are generally only painful. IAD also usually affects the perineum, upper thighs or lower back whereas pressure injuries almost always affect areas of bony prominence.12
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 injuries.11,13,14

**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.12,13,14

**Cleansing 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 fluid, 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 injury or that is suffering from Category 2 IAD.12,13,14

**Moisturizing Skin** – Patients with dry skin are also more susceptible to IAD, MASD, and pressure injuries. Moisturizing may help reduce this risk and provide a palliative reduction in irritation for the patient.12,13,14 It is important, however, for healthcare professionals to be aware of the risk of hyperhydration with strictly occlusive or humectant products. This can negatively impact the skin and exacerbate the effects of IAD.12

**Protecting Skin** – Excessive exposure to moisture from incontinence can significantly weaken the skin, often leading to pressure injuries, MASD, and IAD. 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.12,13,14
Implementing a program of consistent skin care for at-risk individuals can significantly reduce the incidence of IAD, MASD, and pressure injuries in incontinent patients. By using specially formulated skin care products containing lanolin, it is possible to further 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.

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**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. 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.

**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 injuries.
**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.\(^{18}\)

**Barrier formation and repair** – When skin is subject to excessive moisture or other non-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.\(^{15}\)

**Anti-inflammatory properties** – Reducing the incidence and prevalence of IAD, MASD, and pressure injuries 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 is recognized for its anti-inflammatory properties and has been demonstrated to reduce discomfort associated with skin damaging conditions.\(^{19}\)
Effective skin care is critical to the health of those afflicted by incontinence. By implementing a skin care regimen according to best practice guidelines, healthcare professionals can help reduce the effects of IAD and prevent more serious complications, such as pressure injuries. Lanolin can be an integral part of this regimen, helping to immediately hydrate skin without the risk of hyperhydration and while providing beneficial emollient properties. The anti-inflammatory properties of lanolin help support patient comfort and may reduce pain associated with skin conditions such as IAD.

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.

Lantiseptic® offers a range of products designed to:

- **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-in-1 Wash Cream are both strong enough to clean, yet gentle enough to moisturize.

- **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.
References:


