



# All Wales Tissue Viability Nurse Forum and All Wales Continence Forum

*Ffowm Nyrsys Hyfywedd  
Meinwe Cymru Gyfan*

*All Wales Best Practice  
Statement on the*

# Prevention and Management of Moisture Lesions

*Endorsed by*



**All Wales Tissue Viability Nurse Forum**  
Ffowm Nyrsys Hyfywedd  
Meinwe Cymru Gyfan



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# The All Wales Best Practice Statement on the Prevention and Management of Moisture Lesions

This best practice statement on the prevention and management of moisture lesions has been written in collaboration with the All Wales Tissue Viability Nurse Forum and the All Wales Continence Forum. It has been sponsored by an education grant from CliniMed® Ltd.

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## All Wales Tissue Viability Nurse Forum

The All Wales Tissue Viability Forum was formed in September 2003 and has the following aims that form part of the six key principles from the Institute of Medicine (Welsh Assembly Government, 2005):

### **Safety, Effectiveness, Patient-centred, Timely, Efficient and Equitable**

1. To raise awareness of tissue viability in order to improve patient outcomes
2. To raise awareness of the impact of tissue viability in health economics
3. To promote evidence-based practice in tissue viability and influence appropriate policy across Wales
4. To be recognised by the Welsh Assembly Government as a knowledgeable and valuable resource
5. To contribute to the body of knowledge by initiating and participating in tissue viability research and audit
6. To improve patient outcomes by maintaining the links with academia and disseminating knowledge relating to tissue viability to all healthcare providers
7. To work in partnership with industry in order to improve patient care
8. To provide peer support to all tissue viability nurses working in Wales.

## All Wales Continence Forum

The All Wales Continence Forum was established initially to assist in the implementation and monitoring of the All Wales Bladder/Bowel Care Pathway in 2006. Since then it has been recognised by the Welsh Nursing and Midwifery Council (WNMC) and reports directly to the Welsh Assembly Government. Its objectives are:

1. To raise awareness of continence issues to improve patient outcomes
2. To raise awareness of the impact of continence in health economics
3. To promote evidence-based practice across Wales with regards to continence issues and influence policy
4. To be recognised by the WNMC and Welsh Assembly Government as a knowledgeable and valuable resource
5. To contribute to the body of knowledge and evidence with regards to continence care by initiating standard setting, research and audit
6. To work in partnership with industry to improve patient care
7. To forge partnerships with other interested organisations, locally, nationally and internationally to improve continence care across Wales

# Contents

		Page
1	Introduction	2
2	Scope of the document	2
3	Background	2
4	Definition of a moisture lesion	2
5	Impact of continence on moisture lesions	3
6	Definitions and prevalence of incontinence	4
7	Preventing moisture lesions	4
8	Continence products and equipment	5
9	Faecal containment devices	6
10	Nutrition	6
11	Microclimate	6
12	Skin assessment	8
13	Identifying moisture lesions	8
14	Treating moisture lesions	9
15	Repositioning and pressure relief	9
16	Conclusion	11
17	References	11
18	Appendix 1: Bowel symptom algorithm	13
19	Appendix 2: Urinary symptom algorithm	14
20	Appendix 3: Initial toileting checklist	15
21	Appendix 4: Dignified toileting	16

## 1. Introduction

Tissue viability and continence nurse specialists have their individual roles and areas of expertise but there are times when they need to join forces in order to provide patients with optimal care. The prevention and management of moisture lesions is an area where the blending of skills from the two specialisms is required. Continence specialists can address the underlying causes such as urinary and faecal incontinence and offer prevention strategies, whereas tissue viability nurses can advise on how to protect the skin and optimise healing of the moisture lesions once they have formed.

Although joint working is to be encouraged, it is not always feasible due to geographical and resource limitations. Therefore, as in previous publications (AWTVN, 2010), tissue viability and continence nurses in Wales have collaborated to produce a best practice document that can be used by both continence specialists and tissue viability specialists to optimise the care for patients who are at risk of moisture associated skin damage.

This joint working seeks to implement standard 10 (dignity and respect) of the *Doing Well, Doing Better* publication, which sets out the standards for health services in Wales (Welsh Assembly Government, 2010). Its underlying principle is to put the citizen at the heart of everything and to focus on their needs and experiences as well as delivering high-quality services.

In 2011, the Older People's Commissioner for Wales published a report on the experiences of older people in hospital in Wales. Continence was a major concern in the report, which stated 'older people have the right to be treated with dignity and respect, and failures to manage continence... are simply unacceptable.' This best practice document aims to address this issue and considers that the development of moisture lesions is an unacceptable consequence of inadequate continence care.

In a review of the situation one year later, the Older People's Commissioner for Wales (2012) reiterated the effect on individuals, stating: 'Poor continence management can cause humiliation and even physical pain for the person concerned, and staff should be empowered to treat it as a priority.' The report highlighted the fact that providing acceptable care is relatively simple to achieve and this is particularly true of continence management. As a consequence of the reports mentioned above, The All Wales Continence Bundle was developed and launched throughout Wales in June 2013 and it is currently being implemented.

## 2. Scope of the document

The aim of this document is to provide guidance on the detection, prevention, assessment and management of moisture lesions caused by incontinence and perspiration. It does not include guidance on moisture lesions caused by wound exudate. The guidance will not recommend the use of any particular tools designed to quantify the degree of skin damage, but it will provide generic guidance and advice.

This document is aimed at all health and social care professionals directly involved with patients who may be at risk of developing moisture lesions. The recommendations can be implemented in the hospital, the community and care settings.

## 3. Background

Moisture lesions will often occur as a consequence of acute faecal incontinence and diarrhoea (Bayon, 2012). An individual's vulnerability to developing moisture lesions is exacerbated when both faecal and urinary incontinence is present (Voegeli, 2010). They can also be caused by perspiration and excessive wound exudate. The exact prevalence of moisture lesions in Wales is unknown. Houwing et al (2007) estimated the prevalence of moisture lesions in Dutch healthcare institutions to be 11%, although reports of rates from 5.6–66% can be found in the literature (Newman et al, 2007; Gray et al, 2007; Nix and Haugen, 2010).

Published guidance has focused upon confusion between pressure damage and moisture lesions (Wounds UK, 2012), whereby moisture lesions are often misclassified as pressure ulcers. This document does not seek to replicate this work. Instead it will focus on the prevention and management of moisture lesions caused by incontinence and perspiration. Lesions caused by wound exudate require fundamentally different assessment and management strategies including managing infection, which have been adequately covered in other publications (WUWHS, 2008; Wounds UK, 2011; 2013).

## 4. Definition of a moisture lesion

For the purpose of this document, a moisture lesion is defined as being caused by urine and/or faeces and perspiration which is in continuous contact with intact skin of the perineum, buttocks, groins, inner thighs, natal cleft, skin folds and where skin is in contact with skin. Moisture lesions cause superficial loss of epidermis and/or dermis, which may be preceded by areas of erythema on intact skin (Figure 1). They will usually cause pain. The skin will either be excoriated, presenting as superficial broken skin, which is red and dry (Figure 2), or macerated, presenting as red and white, wet, soggy and shiny (Figure 3). The

pattern of skin damage is uneven apart from on the natal cleft when the damage presents as a linear vertical split in the skin. In the case of kissing lesions the damage usually presents on either side of a skin fold.

## 5. Impact of continence on moisture lesions

As discussed, urinary and faecal incontinence are both key contributors to the formation of moisture lesions and have a profound and devastating effect on a person's social, physical, financial and psychological wellbeing (Fader et al, 2008). Prolonged contact of the skin with urine, faeces or both can result in the skin becoming overhydrated or macerated, which can make skin more prone to bacterial infection (Beldon, 2008). The skin also becomes more susceptible to physical damage (Sivamani et al, 2006) leading to extremely painful areas of damage that can cause severe debilitation.

It is important that any person identified with continence issues, and who has a high risk of developing moisture lesions, should be assessed by a competent professional with knowledge of the continence assessment process.

### Box 1. Types of urinary incontinence.

**Stress urinary incontinence:** is the complaint of involuntary leakage of urine on effort or exertion, such as sneezing or coughing (Abrams et al, 2002). It occurs when intra-abdominal pressure is raised and the pelvic floor, sphincter muscle and urethral closing pressure are not able to respond or are too weak to prevent leakage. Risk factors include: childbirth, multiple pregnancies, heavy birth weight, interventions during birth e.g. forceps, tears, menopause and obesity.

**Urge urinary incontinence:** is the complaint of involuntary leakage accompanied by or immediately preceded by urgency (Abrams et al, 2002). Symptoms include frequent urination, urgency and nocturia.

**Mixed urinary incontinence:** is the complaint of involuntary leakage associated with urgency and also with exertion, effort, sneezing and coughing (Abrams et al, 2002).

**Voiding symptoms/obstructive incontinence:** is the complaint of any symptoms or obstruction that can cause the bladder to malfunction and usually prevents the bladder from emptying completely, i.e. enlarged prostate, faecal impaction, urethral strictures, underlying neuropathies, prolapse. It can present with frequency, urgency, nocturia, incomplete emptying, hesitancy, poor stream, splitting or spraying of stream, terminal dribble or post-micturition dribble. Voiding symptoms/obstructive incontinence may indicate presence of a urinary tract infection.

**Functional incontinence:** this is when the environment cannot support the individual's continence needs, i.e. due to poor mobility, poor dexterity and inappropriate toileting equipment.



Figure 1. Superficial loss of epidermis and/or dermis, which may be preceded by areas of erythema on intact skin.



Figure 2. Loss of epidermis and dermis presenting as red, shiny tissue.



Figure 3. Superficial broken skin, which is red and wet with areas of dryness.



Figure 4. Moisture lesion in the natal cleft.

## 6. Definitions and prevalence of incontinence

**Urinary incontinence** is defined as ‘the complaint of any involuntary leakage of urine’ (Abrams et al, 2002; National Institute for Health and Clinical Excellence [NICE], 2013). It is known to be more prevalent in women than men occurring in 25–51% of women (Buckley et al, 2010). The likelihood of problems increases with age (Farage et al, 2007). Prevalence of incontinence in those aged over 65 is estimated at about 7% (Soffer and Hull, 2000), but the true figure is likely to be much higher due to under-reporting by people who feel there is a stigma attached to the condition (Beldon, 2008). Types of urinary incontinence are listed in Box 1 (page 3).

**Faecal incontinence** has a variety of definitions, but the most recognised and used definition is for anal incontinence, which includes not only liquid or solid stool, but also the inappropriate passage of flatus. This definition, developed by the World Health Organization consultation on incontinence (Norton et al, 2002), states: ‘anal incontinence is the involuntary loss of flatus, liquid or solid stool that is a social or hygienic problem.’ Common causes of faecal incontinence are listed in Table 1.

Reported prevalence of faecal incontinence in acute/critical care settings is about 18–37% (Bliss et al, 2000). In long-term care hospitals a prevalence of 46% has been reported (Borrie and Davidson, 1992) and in residential and nursing homes between 40–79% (Bliss et al, 2006).

## 7. Preventing moisture lesions

Assessment and management of continence issues is the main way to prevent moisture lesions occurring. In addition, there are other areas that need attention such as: skin monitoring and good skin care; ensuring the patient has a good nutritional status; maintaining an optimal microclimate; repositioning immobile patients; and providing adequate pressure relief.

### Assessment and management of incontinence

One of the key factors for preventing moisture lesions is the early identification of a person at risk of continence problems followed by a thorough assessment. In the acute setting, the recommended assessment is the All Wales Continence Bundle (2013), and in the community, the All Wales Bladder and Bowel Pathway (Welsh Assembly Government, 2006). The assessment should be carried out by an appropriately qualified and competent healthcare professional trained in continence assessment (Skills for Health, 2008). An initial assessment should include a complete clinical history, physical examination including visual examination of perineal areas to exclude other pathologies (such as allergies or atrophic vaginitis), an assessment

**Table 1. Causes of faecal incontinence (adapted from Norton and Chelvanayagam, 2004).**

Primary problem	Common causes
Anal sphincter or pelvic floor damage	Obstetric trauma, iatrogenic (haemorrhoidectomy, anal stretch, sphincterotomy, gynaecological surgery), idiopathic degeneration, direct trauma or injury, congenital anomaly
Gut motility/stool consistency	Infection, inflammatory bowel disease, irritable bowel syndrome, pelvic irradiation, diet, psychological state such as anxiety
Ano-rectal pathology	Rectal prolapse, anal or recto-vaginal fistula, haemorrhoids or skin tags
Neurological disease	Spinal cord injury, multiple sclerosis, spina bifida/sacral agenesis (usually secondary to constipation)
Degenerative neurological disease	Alzheimer’s disease
Impaction with overflow	Immobility
Spurious/overflow diarrhoea	Older person
‘Lifestyle’ and environmental	Poor toilet facilities, inadequate care, drugs with side effects that affect the gut, frailty and dependence
Idiopathic	Unknown cause

of mobility, dexterity and cognitive function, urinalysis, a frequency volume chart and a bowel diary, a post-void residual urine test and a review of the patient’s medication. The ultimate goal for any professional caring for an individual with a continence issue is to treat or manage the causes (Cooper, 2011). Only after this assessment is it possible to understand a person’s particular continence problem (See Appendices 1, 2 and 3).

There are many interventions for the treatment of incontinence, but when bladder or bowel control cannot be achieved, effective management and containment is the next option.

There is a range of products and equipment that can be used. Each individual patient should be assessed for which products and equipment they might need. The effectiveness of the products should be reviewed on a regular basis. This will vary according to the individual’s needs and care settings, and can range from hours to months, to an annual assessment (See Appendix 4).

## 8. Continence products and equipment

### Containment products

With all urinary and faecal management devices it is important to assess individuals to select the most suitable product. This should be applied by a competent practitioner.

### Body-worn pad products

Body-worn pads come in a range of shapes, sizes and absorbencies and should only be issued after a full continence assessment. It is important that the individual is given the correct absorbency and size otherwise the products will be ineffective and can actually contribute to the formation of moisture lesions e.g. a highly absorbent pad that is not required will cause intact skin to dry out. These products are developed with superabsorbent gel that takes moisture from the skin surface and locks it away in the pad. Individuals should be advised on the correct fitting of the products, storage and told who to contact if a reassessment of needs is required.

### Urinary sheaths, pubic pressure urinals and containment devices

These are effective in containing urinary leakage but each individual must be assessed for suitability and sizing. Sheaths are more commonly used as pubic pressure devices can require more specialised knowledge in relation to fitting and application.

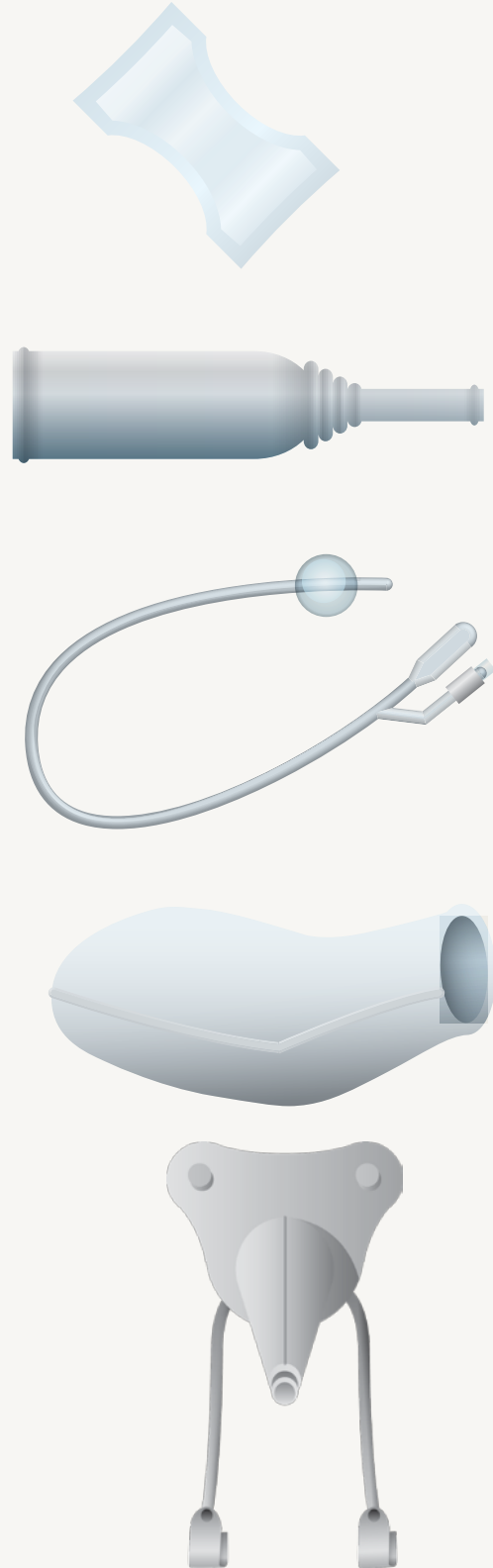
### Urinary catheters

These are only indicated if there is a sound clinical rationale for use (NICE, 2012; RCN, 2012; Loveday et al, 2014). The use of catheters introduces the risk of urinary tract infections, encrustation, urinary calculi, tissue damage, metal erosion and bladder cancer. However, the clinician must determine if the benefits of short-term catheterisation would outweigh the risks involved if it would prevent the development of moisture lesions and their complications (see local urinary catheter bundles for further guidance).

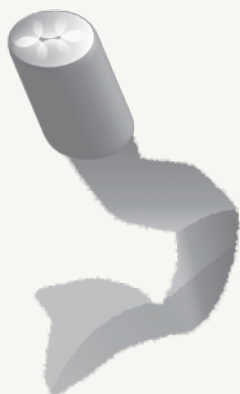
Caution should be taken when using barrier creams near the insertion sites of indwelling catheters because catheters can absorb the cream and this can block off the lumen of the catheter and prevent drainage. This is particularly important for superpublic catheters.

### Urinals and absorbent gels

An appropriate urinal can make the difference between continence and incontinence. There is a large range of these products available on prescription and these should be explored. Absorbent gel is available to use within urinals, which helps to prevent spillage for patients who have poor dexterity and may drop the urinal.



## 9. Faecal containment devices



### Anal plugs

Anal plugs are disposable plugs available on prescription and they come in two sizes, small and large. They are suitable for patients who may have a degree of faecal leakage/seeping but they will not stop a full bowel movement. Some patients cannot tolerate the sensation of the device as it gives a feeling of a full rectum.

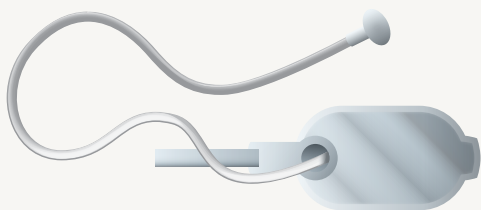


### Faecal collectors

These are disposable containment bags that are applied to the perianal area. They have a skin-friendly adhesive pad which holds the bag in place. They may not be suitable if large amounts of faecal liquid is being passed.

### Faecal management systems

Faecal management systems are inserted into the rectum. With all urinary and faecal management devices it is important to remember that each individual should be assessed for the product most suitable for them and they should be applied by a competent practitioner (Skills for Health, 2008). For further guidance on this see the All Wales Guidelines for Faecal Management Systems – Guidelines for Best Practice ([http://www.welshwoundnetwork.org/files/6313/8555/6979/all\\_wales-faecal\\_systems.pdf](http://www.welshwoundnetwork.org/files/6313/8555/6979/all_wales-faecal_systems.pdf)).



## 10. Nutrition

Skin damage and predisposing faecal incontinence problems can be reduced by maintaining appropriate weight and a healthy, balanced diet.

Malnutrition can occur in both underweight and obese patients. It increases the risk of susceptibility to ill health (NICE, 2006) with one of the consequences being impaired wound healing. About 10–40% of patients admitted to hospital are malnourished (NICE, 2006). The risk of malnutrition increases over the age of 65 (European Nutrition for Health Alliance, 2006).

It is identified that malnutrition is linked to clinical and social conditions and although it is both treatable and preventable, the key is to identify those who are malnourished. This can be achieved by undertaking nutritional screening to identify those patients at risk.

Staff must be able to undertake a nutritional assessment and formulate an appropriate management plan according to the outcome. The All Wales Hospital Nutrition Care Pathway Protocol (Welsh Assembly Government, 2011) states:

‘Within 24 hours of admission to hospital all patients should be weighed and screened for malnutrition or risk of malnutrition using a validated nutritional screening tool. One such tool is the MUST (Malnutrition Universal Screening Tool, BAPEN, 2008) as advocated by NICE (2006).’

Moisture lesions can occur in any age group, but within the older age group the skin is more fragile and it can become damaged more easily. This group is also more susceptible to continence issues. Nutrition should be part of the holistic assessment and management of any person with a skin condition and those at risk of developing moisture lesions. By improving nutritional status, this can improve the appearance and strength of the skin as well as reducing the risk of additional deterioration.

## 11. Microclimate

Microclimate can be described as an area on the skin that is affected by the temperature and moisture found at the interface between the body and the support surface (Clark et al, 2010).

Excessive moisture, which can occur with perspiration, will affect the dermis by weakening the collagen and softening the stratum corneum in the epidermis. This can lead to maceration (Mayortiz and Sims, 2001).



**Table 2. Managing the skin's microclimate to prevent moisture lesions.**

FACTORS AFFECTING MICROCLIMATE	EFFECT	ADVICE
<b>Humidity and moisture</b>	Pressure ulcers can develop due to extreme moisture on the skin surface and high humidity. Both the epidermis and dermis are affected, causing the skin to feel 'spongy' or become macerated. The skin's smoothness is reduced, increasing the risk of skin trauma from friction and shear.	Any skin inspection should include all the areas that can be affected by perspiration — the perianal area, the natal cleft, in between the thighs, any skin folds, the buttocks and under the breasts. Apply a barrier film to protect the skin from moisture.
<b>Perspiration</b>	An increase in the metabolic rate increases the body tissues' susceptibility to the ischaemic effects of shear and pressure. Sweat is produced in an attempt to regulate the body's temperature. Sweating in bariatric/obese people can be problematic owing to the amount produced due to the levels of adipose tissue present. This inhibits loss of heat from the body.	Regularly clean the area using a cleanser that is pH balanced. Pat the skin dry and avoid friction to the skin. Change clothes and bed linen regularly to keep the skin cool and dry. Apply a barrier film to protect the skin from moisture.
<b>Infection/pyrexia</b>	Increased body temperature (pyrexia) that occurs when the person has an infection, increases the body's metabolic rate, which increases the body's need for energy and oxygen. This can lead to reduced tissue perfusion, localised ischaemia and an increased risk of tissue damage due to shear and friction.	Treat any infection. Control body temperature.
<b>Immobile patients</b>	Immobile bed-bound persons are at risk of moisture build-up causing the sheets to become wet.	Fans may be beneficial to help cool the skin and aid evaporation of excessive moisture. Wash and dry skin. Change laundry as necessary.
<b>Dyspnoea</b>	The sympathetic nervous system may become over-active and cause excessive sweating. Profuse sweating may occur owing to the stress of having difficulty in breathing.	The back, buttocks and backs of legs are at risk of moisture build-up in a patient with dyspnoea in a seated position.
<b>Support surfaces</b>	Where the body and support surface come into contact, a rise in temperature may occur due to increased pressure, causing occlusion of the circulation, inflammation and an accumulation of warmth between the skin and the surface. As heat builds up, moisture will accumulate causing the skin to feel damp.	Repositioning the person or advising the person to reposition themselves will aid evaporation of any moisture from the affected areas and aid cooling, preventing the build-up of moisture. Regular cleansing of the area and changing of clothes and bed linen would keep the skin cool and dry. Synthetic sheets may be more beneficial than cotton sheets in the control of microclimate (Yusuf et al, 2013).
<b>Skin folds</b>	Moisture is trapped within the folds where there is minimal air circulating, causing the skin to become macerated and increasing the risk of friction on either side of the fold and the risk of rashes developing (intertrigo). Bacterial or fungal infections can occur within skin folds especially in bariatric patients.	Keep skin folds clean and dry and inspect areas regularly to prevent infection occurring. Apply a barrier film or anti-fungal cream to affected areas after cleansing.
<b>Wound dressings/incontinence pad</b>	Skin temperature can be increased through skin contact with some incontinence pads and dressings due to high ambient humidity, temperature and reduced exposure to air. If the incontinent pad is not absorbent enough this will cause urine and faeces to be in contact with the skin; if too absorbent it will cause the skin to become too dry.	Correct assessment and selection of dressings/incontinence pads is important to avoid the development of moisture lesions.

High humidity will also have the same affect on the skin and the skin may appear 'boggy.' The smoothness of the skin will be reduced thus increasing the risk of skin trauma from friction and shear. Conversely, excessive dryness of the skin due to the loss of moisture into the environment has also been linked to skin trauma.

Further risk to the skin is increased when the skin comes into contact with a surface layer such as a mattress or cushion. This, plus a combination of moisture and high humidity, increases the adherence of the skin to the interface.

Other factors that can have an effect on the microclimate are clothing, bed linen, hosiery and other supports.

The link between skin moisture and pressure damage is well recognised and a variation in skin temperature can be a forecaster for pressure ulcers and superficial skin damage, and potentially moisture lesions. Factors that affect skin temperature changes can be caused by both intrinsic factors (e.g. infection, trauma to the hypothalamus, skin conditions and hormonal imbalance) and extrinsic factors (e.g. over exposure to heat, plastic covered support surface, clothing) (Gefen, 2011).

The aim in managing the microclimate is to avoid any increase or decrease in skin temperature, and to maintain the level of humidity and moisture, but to avoid excessive moisture or dryness of the skin (Table 2). Assessment of the person and their risk of skin maceration should ideally be identified as early as possible so that measures can be taken to prevent tissue breakdown (e.g. application of a barrier film to protect the skin from moisture).

## 12. Skin assessment

Skin assessment and hygiene is a fundamental part of nursing care that is often neglected. It is important that the patient's skin is correctly monitored for the signs of skin damage and steps taken to avoid skin breakdown, which can cause discomfort, distress and a loss of dignity.

A skin assessment should be part of an holistic assessment, with individuals at risk of skin breakdown given a detailed skin inspection at regular intervals (e.g. daily) and any changes documented. All areas affected by urine and faeces, including the perineal area, natal cleft, between the thighs, buttocks and scrotum or labia, should be checked.

Skin assessment should also include a pressure ulcer risk assessment using a recognised tool (EPUAP/NPUAP, 2009). With early recognition of the at-risk individual and implementation

of appropriate prevention strategies, moisture lesions can be avoided.

## 13. Identifying moisture lesions

When moisture lesions do develop it is important that they are identified correctly. Moisture lesions are often misclassified as Category II pressure ulcers (Defloor et al, 2005). The key to the differences between moisture lesions and pressure ulcers lies in the location, shape and depth of the damage (Ousey et al, 2012) (Table 3).

Moisture lesions and pressure ulcers require different clinical interventions. EPUAP has devised a pressure ulcer classification self-assessment (PUCLAS) tool that all practitioners can access for definition and self-assessment. (<http://www.puclas.ugent.be/puclas/e/page4097.html>).

	PRESSURE ULCER	MOISTURE LESION
<b>Causes</b>	Pressure and/or shear must be present	Moisture must be present (e.g. shining, wet skin caused by urinary incontinence or diarrhoea)
<b>Location</b>	If not over a bony prominence then unlikely to be a pressure ulcer Equipment related, e.g. under a device/tube Skin folds (combination)	May occur over bony prominence Perineum, buttocks, inner thigh, groin Skin folds
<b>Shape</b>	Circular wounds Regular shape	Diffuse differential areas/spots Kissing ulcer Anal cleft — linear
<b>Depth</b>	Dependent on category of ulcer	Superficial partial thickness skin loss Can enlarge if infection is present
<b>Necrosis</b>	Dependent on category of ulcer	No necrosis
<b>Edge</b>	Raised edge (chronicity)	Diffuse and irregular edges
<b>Colour of wound bed</b>	Erythema Slough Necrosis Granulation tissue Epithelial tissue Dressing residue Infection	Non-uniform redness Pink/white surrounding skin (maceration) Perianal redness
<b>Distribution</b>	Isolated individual lesions	Confluent or patchy

Reproduced from Ousey et al, 2012

## 14. Treating moisture lesions

The acid mantle of the skin has a mean pH 5.5. It acts as a barrier to bacteria and other potential contaminants and is essential to skin integrity (Beldon, 2008). Urine and faeces are alkaline —urine is between pH 6.5 and 7; the pH of faeces is between 6.5 and 7.5. Faeces also contain digestive enzymes, which can cause erosion of the skin. Therefore, when the skin is exposed to urine and faeces, the pH around the perinatal area changes, increasing lipase and protease activity, causing an increase in skin permeability and reducing the skin's natural barrier function (Wounds UK, 2012).

### Skin cleansing

Skin should be cleansed following each episode of incontinence (Cooper, 2011). However, inappropriate cleansing methods can further aggravate the skin and, where possible, a cleanser that maintains the skin's acid mantle should be used (Bale et al, 2004).

Traditionally soap and water have been used for skin cleansing. However, soap can dehydrate the skin and it contains surfactants that can irritate the skin, causing it to be more vulnerable to breakdown (Bale et al, 2004). In addition, soap is alkaline and, when in contact with faeces and urine, it can further increase the pH balance of the skin. This can encourage the growth of bacteria (Korting and Braun-Falco, 1996) and aggravate any dermatitis present (Nix and Haugen, 2010). If soap is to be used, select one with a low pH and use with warm and not hot water. Avoid rubbing the skin dry as this can lead to friction and discomfort. Gently pat the skin dry, or leave the skin to air dry.

### Skin cleansers

A skin cleanser is an alternative to soap and can reduce the adverse effects of soap by maintaining the skin's pH. Skin cleansers are available as foams, 3-in-1 preparations, sprays or wipes. No-rinse skin cleansers can have a soothing effect and usually contain a non-irritant surfactant, which aids the cleansing process by loosening the faeces and eliminating the need to rub the skin to remove any soiling.

### Skin protection using barrier products

The skin can be protected from exposure to excessive moisture using a suitable skin barrier product (Dowsett and Allen, 2013). These are topical preparations that are available as a cream, spray, foam applicator or wipes. Creams can be applied to dry, intact skin, while sprays, wipes or applicators can be applied to broken and/or intact skin.

Skin protectors can be classed as either protective films, which use silicone polymers such as dimethicone to create a dry, water repellent transparent barrier, or moisture barrier

products (e.g. creams or ointments), which lock in moisture to hydrate and protect the skin. These may be breathable or occlusive, and can moisturise the skin as well as repel fluid and keep the air out.

Barrier creams are water-based and may contain dimethicone, lanolin or zinc oxide. These additives may cause irritation to the skin, especially in the older person, which may be more sensitive (Beldon, 2007; Carmody and Forter, 2003). All creams should be applied thinly and removed after each episode of incontinence to avoid build-up of cream and faeces. Ointments are oil-based and have an occlusive effect on the skin (Nix, 2006), offering more protection than creams.

Film barrier products can be applied to broken or irritated skin without stinging and dry quickly to provide a waterproof protective barrier against irritants such as faeces and urine.

Barrier products should be applied according to the manufacturer's instructions or local formulary guidance, and can provide up to 72 hours of protection; in cases of severe incontinence they can be reapplied every 24 hours. The barrier cream or film should be allowed to dry completely — this can take approximately 30–60 seconds — before applying pads or clothing, as they might stick. Applying too many layers of barrier products may make the area feel stiff and cracking can occur, which will allow moisture to penetrate through the barrier.

Whatever barrier product is used, it is essential that it does not clog or reduce the absorbency of continence pads. Barrier products containing dimethicone do not cause absorption problems with continence pads.

Appropriate devices to divert incontinence should be considered in individuals at high risk of developing moisture lesions (see Section 8, page 5). For patients who continue to have unresolved continence issues, seek advice from specialist continence advisors, where possible.

## 15. Repositioning and pressure relief

Individuals with incontinence may also have problems with mobility and as a result be at risk of developing pressure ulcers as well as moisture lesions.

A Category II pressure ulcer is a wound with partial thickness loss of dermis, which presents as a shallow open ulcer with a red pink wound bed, without slough (EPUAP/NPUAP 2009). The definition of a moisture lesion in section 4 of this document describes a similar clinical presentation.

**Table 2. Prevention and treatment of moisture lesions: a summary.**

AIM	ACTION	ADVICE
<b>Maintain skin integrity</b>	Individuals at risk of skin breakdown should have their skin inspected regularly as part of an holistic assessment and any changes should be documented.	Any skin inspection should include all the areas that can be affected by urine, faeces and perspiration: the perianal area, the natal cleft, in between the thighs, any skin folds and the buttocks.
<b>Protect skin from damage</b>	A barrier film or cream should be used to protect vulnerable skin from irritation from incontinence (Wounds UK, 2012).	Barrier cream or film can be applied to intact and broken skin, however, only barrier cream will moisturise the skin. Application and use of barrier films and creams should be according to the manufacturer's instructions. Seek guidance from local formulary.
<b>Repositioning for patients who are immobile</b>	SSKIN bundles or repositioning schedules should be initiated for all individuals at risk of skin damage.	The time between position changes should be based on assessment of each individual and his/her condition.
<b>Pressure relief</b>	Identify and use appropriate pressure-relieving equipment.	Patients with moisture lesions still require pressure relief as the presence of moisture increases the risk of pressure damage. Refer to your local health board's pressure ulcer prevention and management policy/guidance and provide appropriate pressure-relieving equipment.
<b>Assess for continence issues and implement measures to minimise effects of incontinence</b>	Continence status should be assessed and reassessed regularly or according to the individual's condition. Following assessment, the use of appropriate continence equipment is also an important part of managing moisture lesions.	Guidance on the assessment timescales can be found in: All Wales Continence Bundle (acute) and the All Wales Bladder/Bowel Pathway (Community: see Appendix 1 and 2) Nurses should undergo training in continence care and ensure they keep themselves up to date. Refer patients with complex urinary and faecal incontinence to a continence advisor for specialised management. If clinically indicated urinary catheterisation and faecal management systems should be considered to protect skin integrity (Ousey et al 2012). Refer to All Wales Guidelines for Faecal Management Systems (see page 6).
<b>Microclimate</b>	Excessive moisture, which can occur with perspiration, will affect the dermis by weakening the collagen and softening the stratum corneum. This can lead to soggy or macerated skin. Sweat is produced in attempt to regulate the body's temperature and is more problematic in bariatric patients (Rush, 2009).	Regulate patient's temperature and apply a barrier product following gentle skin cleansing.
<b>Nutrition</b>	A nutrition assessment should be included in the holistic assessment of any person with a skin condition and those at risk of developing moisture lesions.	Effective management of the nutritional status can improve the appearance and strength of the skin as well as reduce the risk of further deterioration.
<b>TREATMENT</b>		
<b>Pain management</b>	Assess pain using a validated visual analogue scale. Ensure regular, adequate, analgesia is prescribed according to WHO analgesia ladder (WUWHS, 2008).	Barrier products can reduce erythema by protecting the skin, which may help to reduce pain and discomfort.
<b>Wound management products</b>	Dressings are not clinically indicated for moisture lesions.	If you do need to use wound management products, seek specialist advice when using dressings. Use with caution as they may cause skin stripping.
<b>Infection</b>	Bacteria may be found following skin breakdown e.g. <i>Candida albicans</i> is a common fungus, which thrives in the environment created within moisture lesions.	Consider a topical anti-fungal agent such as 1% clotrimazole cream (recommended twice daily for 3-5 days) or a combined hydrocortisone/clotrimazole cream such as Trimovate. Please refer to dermatology for further advice.
<b>Establish the incidence or prevalence of moisture lesions in the clinical area and monitor the effectiveness of interventions</b>	Audit the assessment and management of moisture lesions to establish adherence to guidelines and promotion of best practice.	It may be helpful to include moisture lesions in local incident reporting, data collection, prevalence and/or incidence surveys.

Consequently, when inspecting an individual's skin, it may be difficult to tell if the damage to the skin is caused by moisture alone or moisture in combination with pressure. If the skin is subjected to moisture and pressure then the treatment strategy will have to overcome both of these insults to the skin. Therefore, along with guidance on how to prevent and manage moisture on the skin, pressure relief will be an important part of care for the individual.

Repositioning, together with the use of pressure-relieving equipment, are the main methods of preventing pressure damage caused by extended periods of localised pressure on the skin. The use of repositioning should be considered in all at-risk individuals as a prevention strategy and should be undertaken to reduce the duration and magnitude of pressure over vulnerable areas of the body (AWTVNF, 2010). The repositioning schedule should take into account the daily activities of the individual, their ability to tolerate pressure when in the seated and lying position and the support surfaces in use.

If a moisture lesion does not respond to interventions to minimise the effects of moisture alone then the clinician should consider whether pressure is contributing to the damage and introduce repositioning and pressure relief into the individual's care.

## 16. Conclusion

This best practice document aims to address the issues associated with the development of moisture lesions and the unacceptable consequence of inadequate continence care. Skin assessment and hygiene is a fundamental aspect of nursing care that is often neglected.

As part of the holistic assessment, the individual's skin and continence status should be assessed regularly. Early recognition and use of appropriate interventions can prevent moisture lesions from occurring in the first place.

Skin should be cleansed after each episode of incontinence using pH-friendly skin cleaners and avoiding traditional soap and water, which can strip the skin. A barrier product should be used to protect vulnerable skin from contact with urine and faeces. Appropriate devices to divert incontinence should be considered in patients at high risk of developing moisture lesions.

Although the treatment for pressure ulcers and moisture lesions is different, patients with moisture-associated skin damage still require pressure relief. This is because the presence of moisture increases the risk of pressure damage occurring.

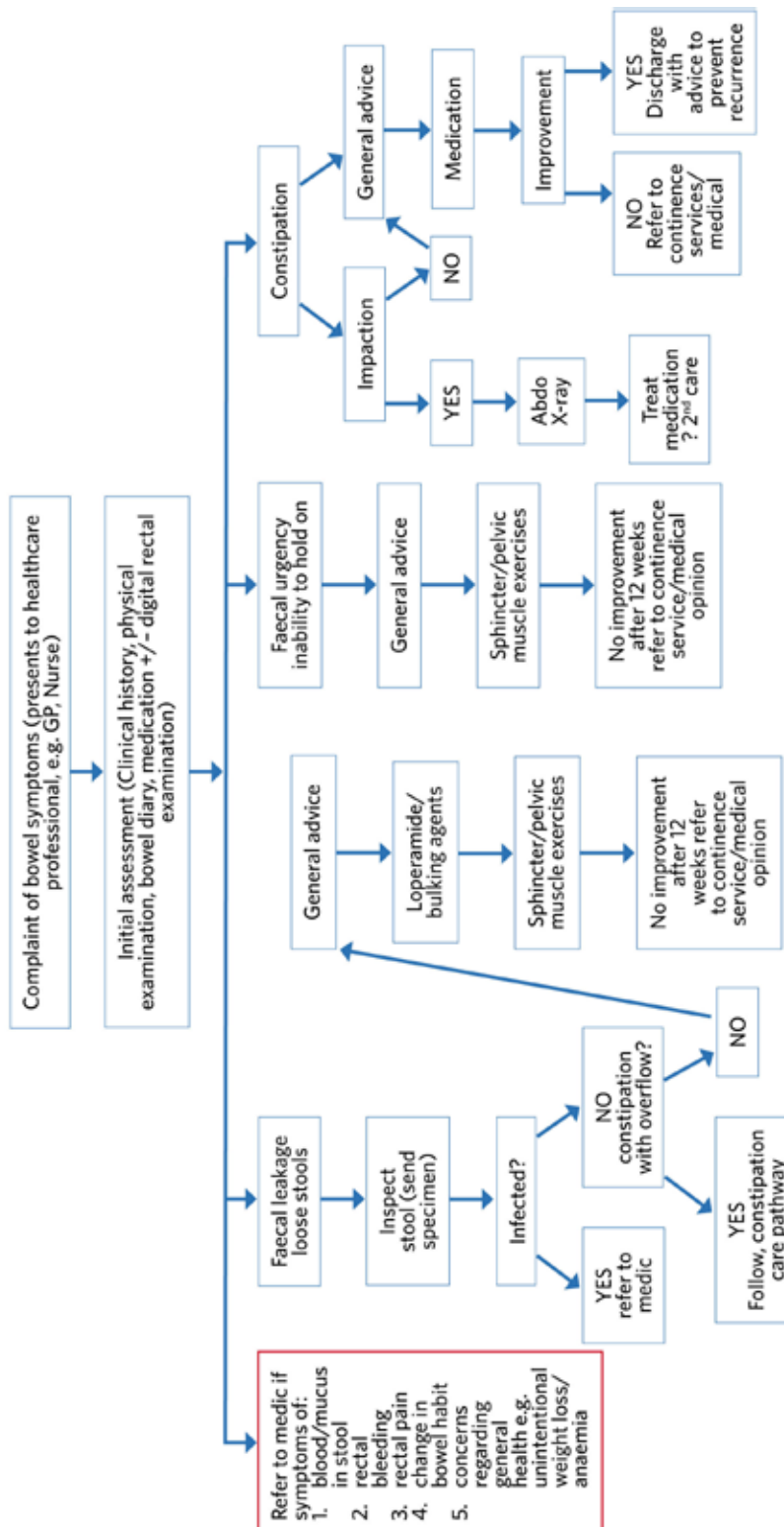
For patients with unresolved continence issues, advice should be sought from a specialist continence advisor.

## References

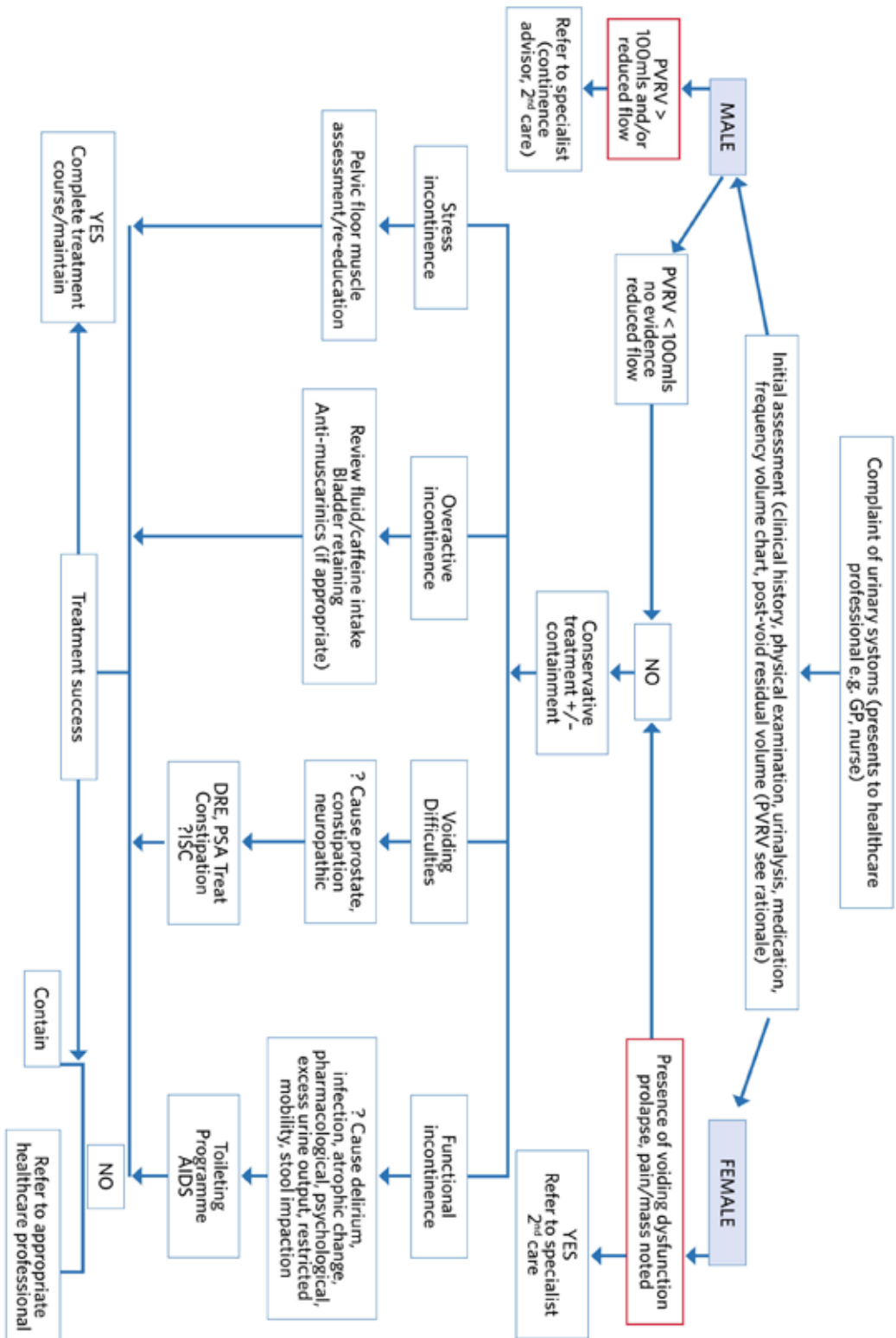
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Appendix 1. Bowel symptom algorithm.



Appendix 2. Urinary symptom algorithm.





### Appendix 3. Initial toileting checklist.

Patient Name ..... Hosp No ..... Ward/Dept .....

At this CURRENT time does your patient: CIRCLE YES OR No AS APPLICABLE

- |   |        |
|---|--------|
| 1. Need help to get to the toilet                             | YES/NO |
| 2. Have any cognitive problems                                | YES/NO |
| 3. Have mobility problems                                     | YES/NO |
| 4. Need to rush to the toilet                                 | YES/NO |
| 5. Need to use the toilet frequently                          | YES/NO |
| 6. Occasionally/regularly leak urine                          | YES/NO |
| 7. Occasionally/regularly leak faeces                         | YES/NO |
| 8. Normally wear a pad  | YES/NO |
| 9. Normally use a catheter (indwelling / ISC) (please circle) | YES/NO |
| 10. Normally uses any equipment to help with toileting        | YES/NO |

IF ANSWERED NO REFER TO ACTION BOX 1. IF ANSWERED YES REFER TO ACTION BOX 1 & 2 ON THE DIGNIFIED TOILETING ACTIONS DIAGRAM.

Nurse Signature ..... Date ..... Time .....

Appendix 4. Dignified toileting actions.

