

PREVENTING SKIN DAMAGE CAUSED BY URINARY INCONTINENCE

Tuesday 13th October
7.30PM

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in association with



PREVENTING SKIN DAMAGE CAUSED BY URINARY INCONTINENCE



Introduction

- **What is incontinence-associated skin damage and who is affected?**
- **What causes incontinence-associated skin damage?**
- **Preventing incontinence-associated skin damage**
- **Addressing the causes of incontinence-associated skin damage**
- **Patient case study – PureWick™ Female External Catheter**



What is incontinence-associated skin damage and who is affected?



Incontinence-associated dermatitis (IAD)



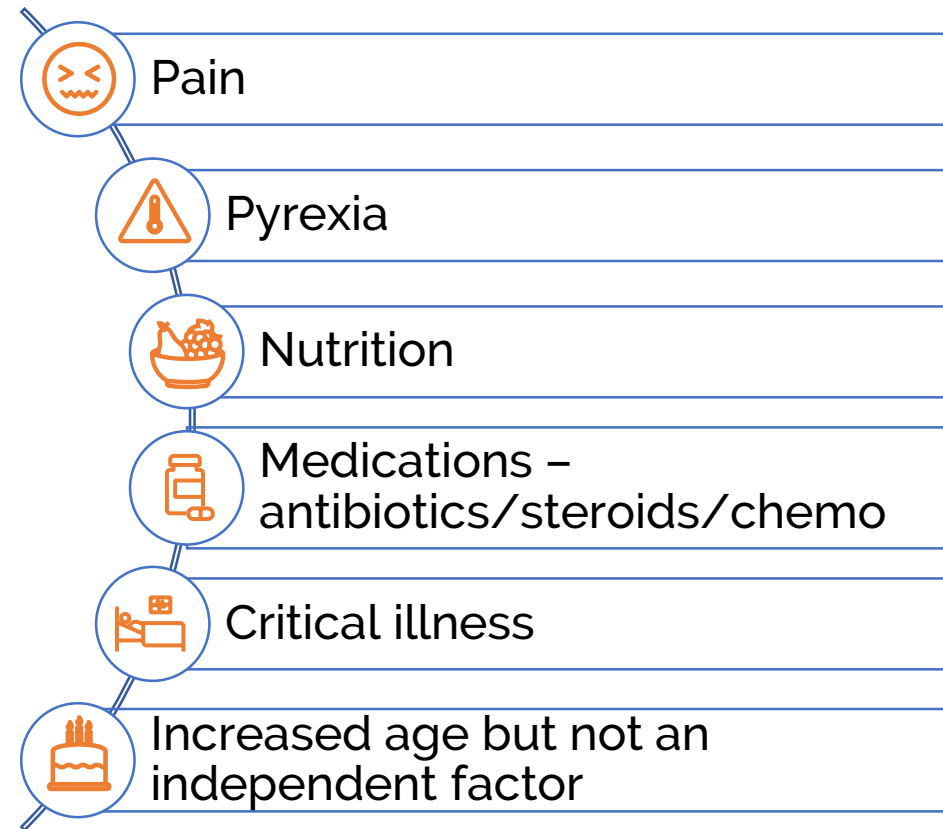
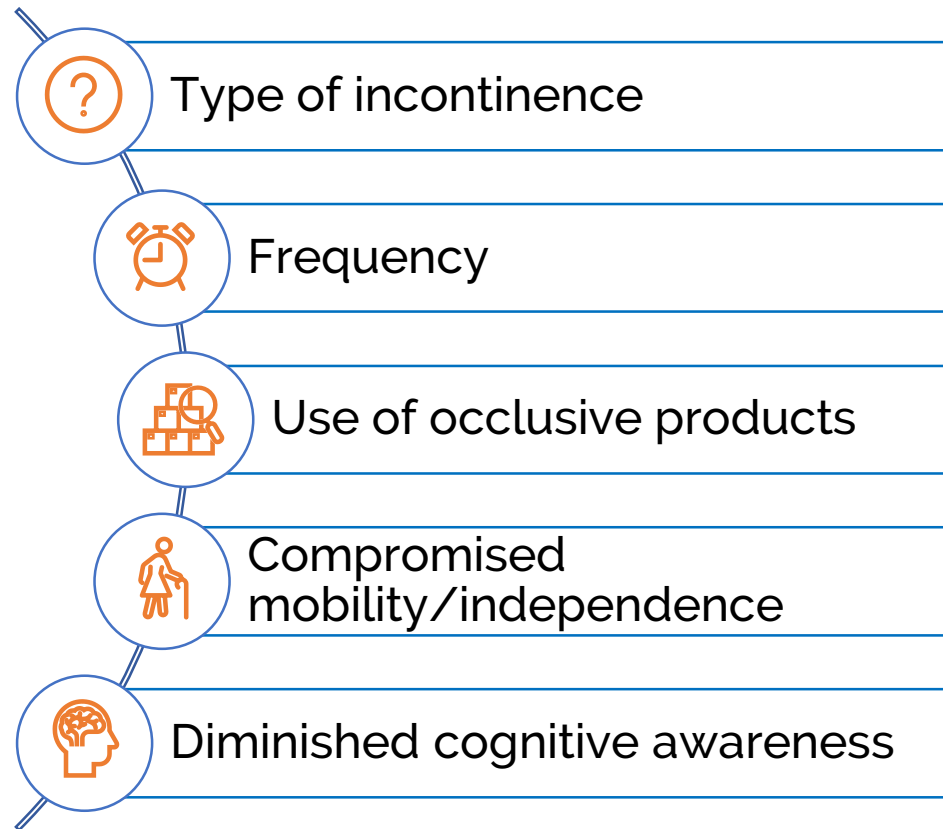
- A type of **irritant contact dermatitis** (inflammation of the skin) found in patients with faecal and/or urinary incontinence¹
- Also known as **perineal dermatitis, nappy rash and moisture lesion**¹
- The WHO's International Classification of Diseases (ICD-10) contains coding for diaper dermatitis, but not for IAD – **ICD-11 coding will include 'irritant contact dermatitis due to incontinence'**¹

How many patients are affected?



- **Significant problem** — where data are collected but generally unknown
- **Difficulty recognising and distinguishing** from pressure ulceration¹
- Estimated that **14 million men, women, children affected** by bladder problems in the UK²
- **34%** of women suffer with urinary incontinence³

Patients at risk of IAD



Global challenge and categories of IAD

University Centre for Nursing and Midwifery
www.ucvghent.be

GHENT UNIVERSITY

GLOBIAD

Ghent Global IAD Categorisation Tool

THE GHENT GLOBAL IAD CATEGORISATION TOOL


Version 1.0 June 2017

SKINT
skin integrity research group
www.skintghent.com

GHENT UNIVERSITY

Category 1: Persistent redness

1A - Persistent redness without clinical signs of infection




Critical criterion

- Persistent redness
A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour.

Additional criteria

- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- Skin may feel tense or swollen at palpation
- Burning, tingling, itching or pain

1B - Persistent redness with clinical signs of infection



Critical criteria


- Persistent redness
A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour.
- Signs of infection
Such as white scaling of the skin (suggesting a fungal infection) or satellite lesions (pustules surrounding the lesion, suggesting a *Candida albicans* fungal infection).

Additional criteria

- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- The skin may feel tense or swollen at palpation
- Burning, tingling, itching or pain

Category 2: Skin loss

2A - Skin loss without clinical signs of infection




Critical criterion

- Skin loss
Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), denudation or excoriation. The skin damage pattern may be diffuse.

Additional criteria

- Persistent redness
A variety of tones of redness may be present. Patients with darker skin tones, the skin may be paler or darker than normal, or purple in colour
- Marked areas or discolouration from a previous (healed) skin defect
- Shiny appearance of the skin
- Macerated skin
- Intact vesicles and/or bullae
- Skin may feel tense or swollen at palpation
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2B - Skin loss with clinical signs of infection



Critical criteria

- Skin loss
Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), denudation or excoriation. The skin damage pattern may be diffuse.
- Signs of infection
Such as white scaling of the skin (suggesting a fungal infection) or satellite lesions (pustules surrounding the lesion, suggesting a *Candida albicans* fungal infection), slough visible in the wound bed (yellow/brown/greyish), green appearance within the wound bed (suggesting a bacterial infection with *Pseudomonas aeruginosa*), excessive exudate levels, purulent exudate (pus) or a shiny appearance of the wound bed.

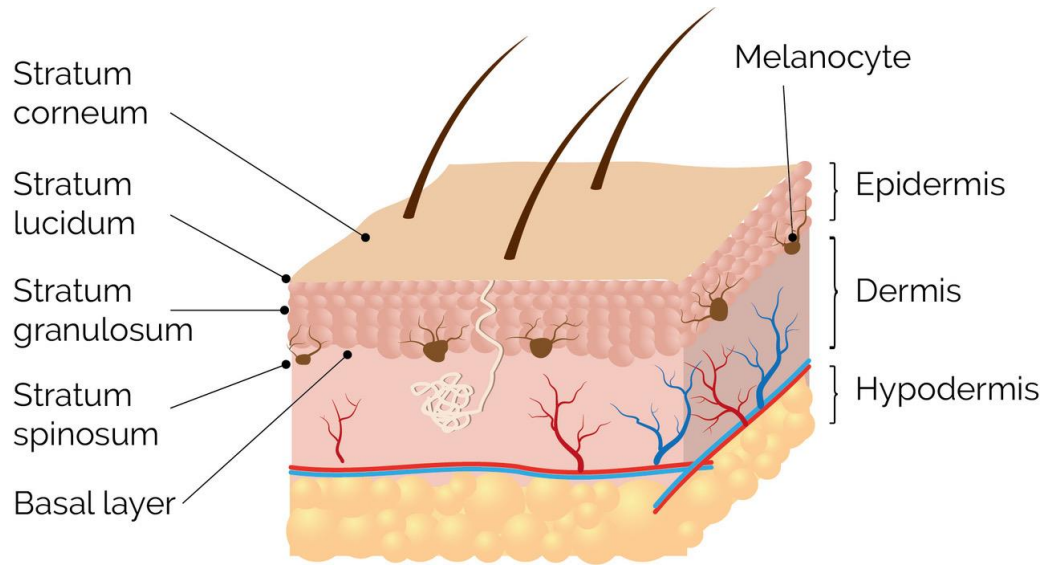
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What causes incontinence-associated skin damage?

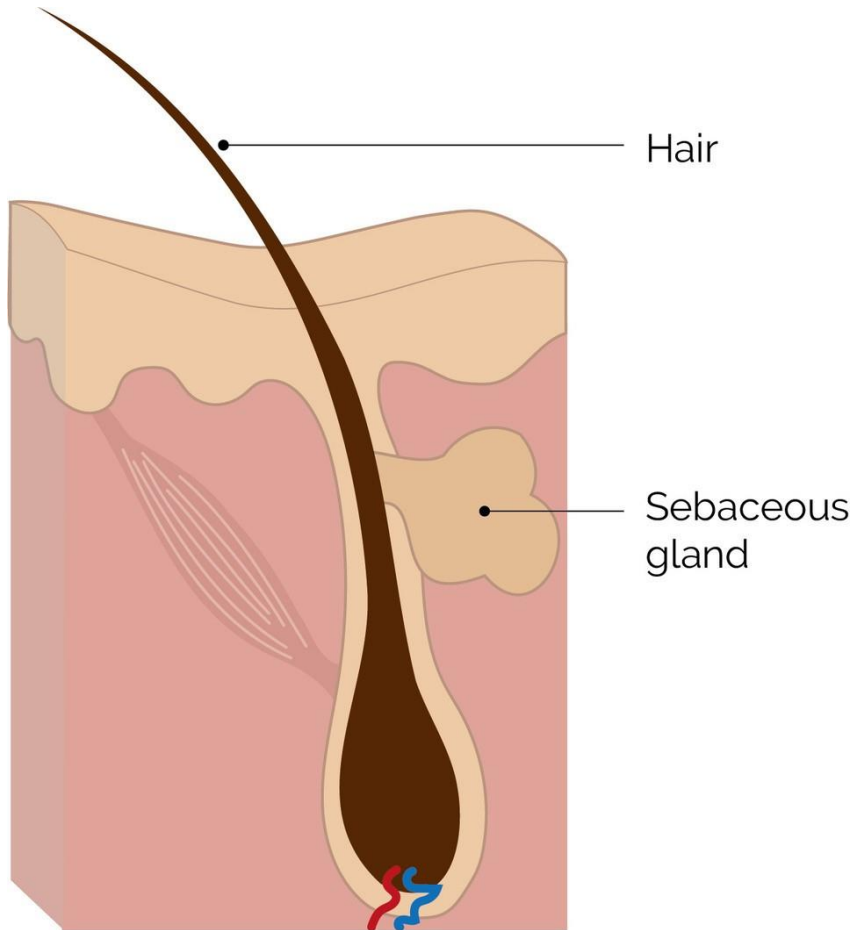


The layers of human skin



- Main outer skin barrier — **stratum corneum**
- Layers of flattened skin cells called **corneocytes** are constantly renewed and embedded in lipids to create a brick-like pattern, **held together by proteins** called desmosomes
- **Regulates water movement in/out** of the stratum corneum, ensuring appropriate hydration and preventing over-hydration

Healthy skin — the acid mantle



- Surface of **healthy skin is acidic** (pH 4-6), called the acid mantle and assists in regulating the skin microbiome (resident bacteria)
- **Sebum secreted** from the sebaceous gland mixes with sweat and becomes the acid mantle
- Blood is slightly alkaline (pH 7.4), potentially pathogenic **bacteria that reach internal organs will find a hostile environment**
- Acidic exterior and alkaline interior is a **defense mechanism**

IAD — disruption to the skin barrier



- **Water from urine/faeces** is pulled into and held in the corneocytes¹
- **Overhydration causes swelling and disrupts the structure** of the stratum corneum, e.g. maceration¹
- **Irritants penetrate** and trigger inflammation¹
- **Overhydrated skin is more prone to friction** from clothing, incontinence pads and bed linen¹

IAD — disruption to the skin barrier *continued*



- Skin becomes more alkaline with exposure to urine/faeces¹
- Urea, found in urine is converted to ammonia by the bacteria of the microbiome¹
- Ammonia is alkaline and increases the skin pH, which allows micro-organisms to thrive and increases the risk of infection¹

IAD and pressure ulcers



- Different aetiologies, but **may co-exist**¹
- Many common risk factors — **poor health and reduced mobility**¹
- **IAD develops from the top down**, while pressure ulcers are believed to develop from the bottom up¹
- **Wet skin has a higher coefficient of friction** and reduces tissue tolerance to pressure and shear⁵

IAD – cost to treat



- Pressure ulcer productivity calculator (NHS Improvement)
- 77 category 2 pressure ulcers
- £521,000 (mid-range calculation)

Preventing incontinence-associated skin damage



Cleansing



- During cleansing, the stratum corneum is exposed to **high concentrations of surfactants**
- Harsh surfactants **swell the corneum** due to alkaline pH
- Evaporation of excess water from swelling results in **after-wash tightness of skin**
- Types of surfactants/products most suitable for use in managing incontinence (**non-ionic**) should be labelled as such

Protecting the skin

- Skin protectants are used to prevent and treat IAD
- Form a barrier between the stratum corneum and moisture/irritant
- Allow the skin barrier to recover
- Provide variable protection depending on the formulation

Protecting the skin

Principle skin protectant ingredient	Description	Notes
Petrolatum (Petroleum jelly)	Derived from petroleum processing and a common base for ointments.	Forms an occlusive layer, increasing skin hydration. May affect fluid uptake of absorbent incontinence products. Transparent when applied thinly.
Zinc oxide	White powder mixed with a carrier to form an opaque cream, ointment or paste.	Can be difficult and uncomfortable to remove (e.g. thick, viscous pastes). Opaque, needs to be removed for skin inspection.
Dimethicone	Silicone-based; also known as siloxane.	Non-occlusive, does not affect absorbency of incontinence products when used sparingly. Opaque or becomes transparent after application.
Acrylate terpolymer	Polymer forms a transparent film on the skin.	Does not require removal. Transparent, allows skin inspection.

Beeckman et al, 2015¹



Skin infection and IAD



- No evidence to support the routine use of **topical antimicrobial products** in the prevention of IAD
- Candidiasis can be treated topically with **antifungal cream**⁶
- **Caution using skin barriers** prior to application of topical treatments
- May result in **intense itching and inflammation**

Addressing the causes of incontinence-associated skin damage



Appropriate continence management



Paper products
e.g. pads/sheets



Indwelling
catheters



Intermittent
catheters (ISC)



Sheaths



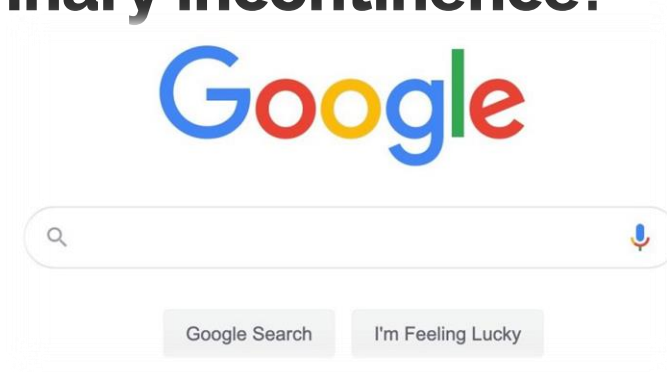
External
catheters

Urinary incontinence and Google



Rank	Keyword	Avg Monthly Searches
1	Incontinence	49,500
2	Tena lady	22,200
3	Tena men	18,100
4	Frequent urination	12,100
5	Tena pants	12,100
6	Incontinence pads	12,100
7	Overactive bladder	8,100
8	Nocturia	8,100
9	Adult nappies	8,100
10	Tena lady pants	6,600

- **Keywords and phrases searched in Google** for one month
- **Patients and carers looking for help and solutions** for urinary incontinence?



Continence pads

- Many shapes, sizes and absorbencies – **pulp and super-absorbent particles absorb and lock urine away**
- **Full assessment required** and education on correct fit/storage
- May cause **dry skin if high absorbency not required** and inappropriate use of flat sheets/without pants is common
- **NHS spend** on continence products is around **£80m/year** and monthly individual cost is £43-64/night and £34-73/day³



Focus on indwelling catheters: local audit



48 clinical areas —
only **3** had patients
had no catheter



220 catheters *in situ* (19.2%)



Wide variation in
catheter material
and type of urine
drainage bag



Lack of bladder
scanners



Male sheaths
rarely used



Wide variation in
catheter insertion
technique



Lack of catheter
stabilisation



No catheter
passports used

Urinary sheaths for men

- Avoid using pads and the inconvenience of frequent changes
- An indwelling catheter is uncomfortable
- Prevent CAUTI





Limited options for women

#2 risk factor = female gender



A new standard of care for women

			
✓	✓	✓	Foley Catheter
✓	✓	✓	Urethral Catheter + Bladder Scan
✓	?		External Catheter
✓	✓	✓	Urinal
✓	✓	✓	Absorbent Pads
✓	✓	✓	Diapers

Fills Critical Gap



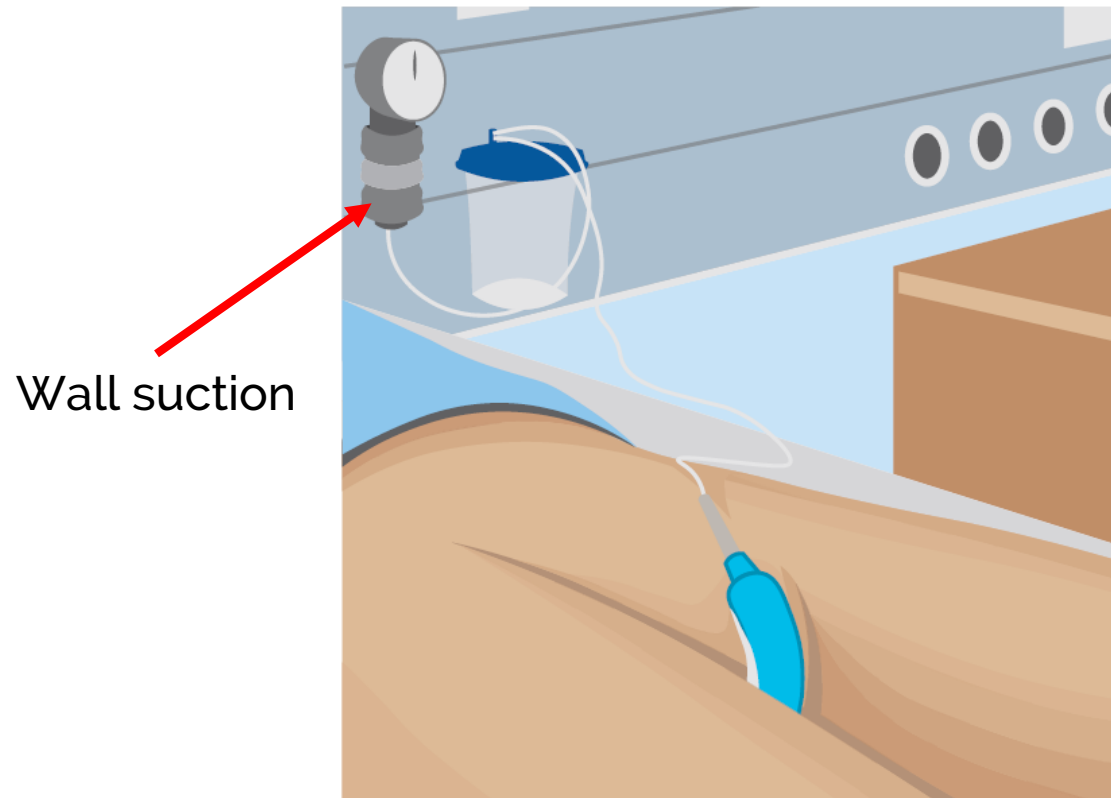
NEW SOLUTION

PureWick™ Female External Catheter

LATEX-FREE

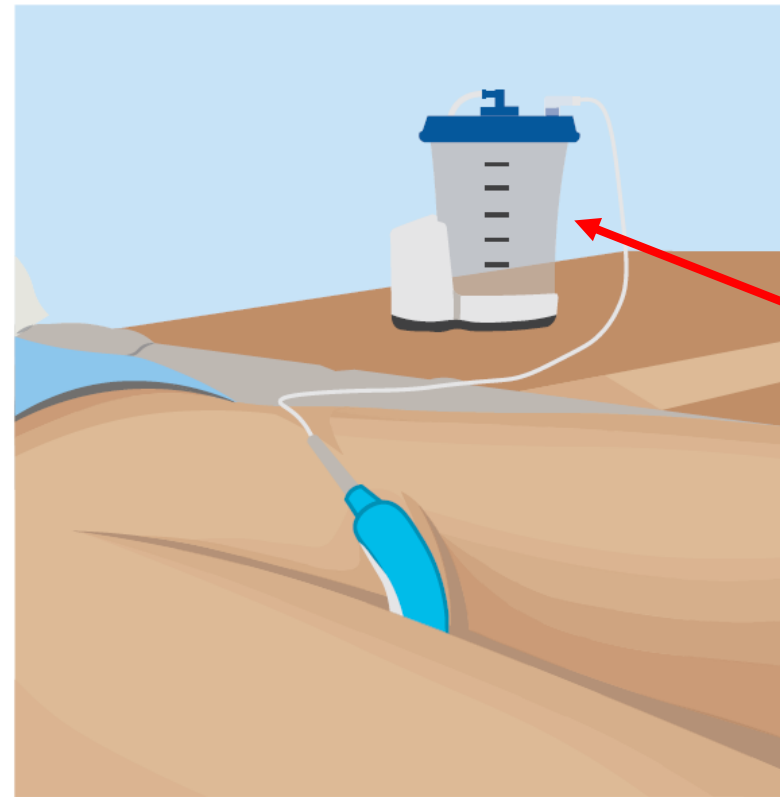


Using PureWick™ in hospital and at home



Wall suction

Hospital use: attach the PureWick™ Female External Catheter to **wall suction**



Small vacuum pump

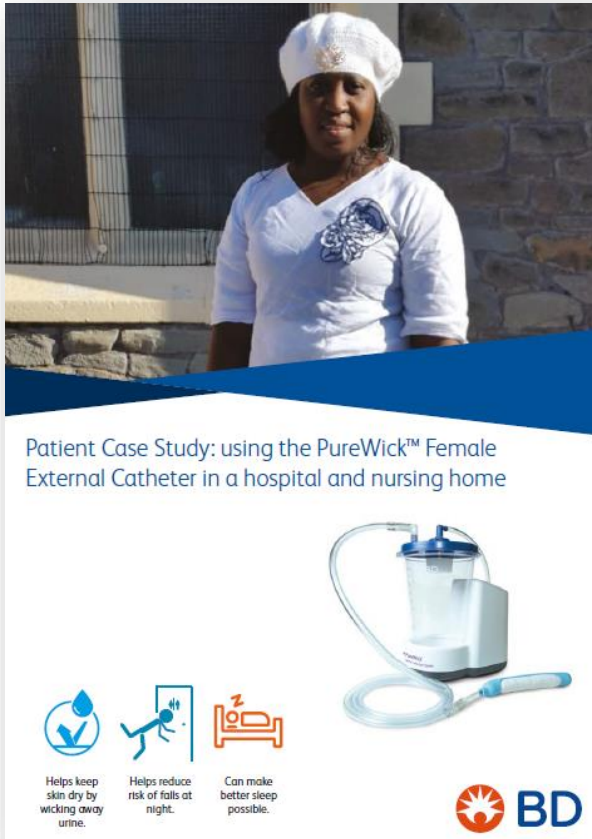
Community use: attach the PureWick™ Female External Catheter to the PureWick™ Urine Collection System (**small vacuum pump**)



Patient case study 1



Jaycynth's story



- Sudden illness diagnosed first as a stroke with left side paralysis and later as **multiple sclerosis** (MS)
- **Total urinary incontinence, managed with pads** (av. 20/day) and personal care provided by female and male staff
- Interrupted sleep, discomfort, malodour and **loss of dignity**
- After five weeks, **used the PureWick™ Female External Catheter**

Jaycynth's story

- Initial **apprehension**
- First **full-night's sleep**
- Initial difficulty positioning but **learnt to self-manage**
- Able to **wear own underwear**
- Transferred to a nursing home using the PureWick™ System and **now using it at home**



Patient case study 2



Emily's story with PureWick™

- 33 years and 77kg with loss of sensation/lower limb
- Multiple pressure ulcers and moisture-associated skin damage (MASD)
- Challenging to use an indwelling catheter
- Used the PureWick™ Female External Catheter



Feedback from clinicians on PureWick™

- **Ease of use** in clinical practice
- Integration into routine/practice
- Available through **NHS Supply Chain** and **no prescription required** for community
- Continued learning is a must
- User/patient feedback is essential



Visit www.purewickathome.co.uk

PureWick™ Female External Catheter

Contact BD for more information:



Visit: www.bardcare.uk/facebooklive



Email: blair.cheekooree@bd.com



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