

# 3M™ Cavilon™ skin care products

made  
easy

## Introduction

Skin breakdown is common and may result in a wide range of potentially serious and debilitating complications, such as the development or enlargement of open wounds and increased risk of infection. Among the most challenging causes of skin breakdown is moisture-associated skin damage (MASD), which includes incontinence-associated dermatitis (IAD). Incontinence is a well-recognised risk factor for the development of pressure ulcers (Beeckman et al, 2014; Langemo et al, 2011); the risk of developing a pressure ulcer has been found to increase as severity of IAD increases (Park, 2014). Other forms of MASD include intertriginous dermatitis, periwound and peristomal skin damage. Medical adhesive-related skin injury (MARS) is also a significant but under-reported skin injury.

Prevention of skin breakdown requires accurate wound assessment, excellent management of the predisposing cause and protection of vulnerable skin to prevent future occurrences. Identifying patients at risk of skin breakdown and initiating a structured skin care regimen allows for the preservation of skin integrity and aids the prevention of more serious and costly complications.

There is a common misconception that all skin barrier creams and films are equivalent in both formulation and function; in fact, all components must be considered in order to select the correct product. Ideally they need to be effective, easy and comfortable to apply, long-lasting and cost-effective (see Box 1). This article details some of the unique characteristics and uses of the Cavilon range of skin care products.

The range has been developed to protect vulnerable skin and prevent skin breakdown. The products detailed below offer a complete skin care regimen to cleanse, protect and restore vulnerable skin.

## WHAT ARE CAVILON SKIN CARE PRODUCTS?

The Cavilon range of skin care products are shown in Table 1.

### Cavilon Durable Barrier Cream

Cavilon Durable Barrier Cream is a unique moisturising barrier cream that creates an invisible, breathable barrier over the skin to moisturise and protect the skin from the irritating effects of bodily fluids, such as urine and/or faeces.

Table 1. Cavilon skin care products.

Name	Description	
3M™ Cavilon™ Durable Barrier Cream	2g Sachet 3392GS 28g Tube 3391G 92g Tube 3392G	
3M™ Cavilon™ No Sting Barrier Film	1ml Wand 3343E (sterile) 3ml Wand 3345E (sterile) 1ml Wipe 3344E (sterile) 28ml Spray Bottle 3346E	
3M™ Cavilon™ Advanced Skin Protectant	2.7ml Foam Applicator 5050G (sterile)	
3M™ Cavilon™ Contience Care / Bathing & Cleansing Wipes	Contience Care Wipes 9274 Bathing & Cleansing Wipes 9272	

Cavilon Durable Barrier Cream will not transfer to underwear or incontinence pads, and resists wash-off due to the water in oil formulation and a unique ingredient (acrylate terpolymer). Therefore, it does not need to be re-applied after every incontinence episode, eliminating the need for frequent application. Removal is not required. Unusually for a cream, it allows tapes and dressings to adhere and, as with all Cavilon skin care products, it has been tested for hypoallergenicity; it is perfume and paraben-free, and is safe to use on both intact and injured skin. Cavilon cream is suitable for use from birth (37 weeks gestation).

### Cavilon No Sting Barrier Film

Cavilon No Sting Barrier Film is the original alcohol-free barrier film, which forms a breathable (non-stinging) transparent protective coating on the skin to protect from friction, adhesive trauma and bodily fluids (such as incontinence and wound exudate).

Cavilon No Sting Barrier Film has a unique blend of ingredients, including an additional plasticiser that allows the barrier to flex and move with the skin, preventing cracking and allowing a continuous protective coating on the skin. It is fast-drying with a non-sticky finish, which facilitates ease of use and patient comfort. Cavilon No Sting Barrier Film has been clinically proven to protect the skin from the effects of incontinence for up to 72 hours (Houser et al, 2010). However, as with all barrier products, wear-time will depend on clinical indication and need.

Cavilon No Sting Barrier Film is available in a wide range of presentations to suit clinical need. This includes a handy 1ml wipe, a 1ml and 3ml wand and a 28ml spray. The presentations are all sterile; however, the 1ml wand has the added benefit of a unique peel-open packaging, which facilitates aseptic non-touch technique. This makes it an ideal presentation when a protective barrier film is required under a vascular access device. Cavilon No Sting Barrier Film is suitable for use on infants from 1 month of age.

### **Cavilon Advanced Skin Protectant**

Moisture-associated skin damage such as IAD is challenging and can cause significant skin erosion, where the skin can be wet, weepy and can also bleed, causing significant pain to the patient. Until now, traditional pastes and ointments have been the only option for protecting this damaged tissue. In some cases, dressings are used, which can result in dressing failure. Limitations associated with current products include thick textures, which make application and removal messy and painful as well as preventing visualisation of the skin. Current products also need to be re-applied after every incontinent episode.

Cavilon Advanced Skin Protectant has a unique polymeric-cyanoacrylate formulation that forms a transparent protective barrier for skin that is frequently or continuously exposed to moisture, including urine/faeces and other body fluids (such as wound exudate) and can also be used in areas exposed to friction. Cavilon Advanced Skin Protectant has the ability to adhere to wet, weeping (denuded) and/or dry skin and offers enhanced protection against irritants such as liquid stool, which has a high enzyme content and a high-alkaline pH. It is supplied in a single patient use applicator, which also reduces the risk of cross-contamination and supports infection control initiatives. The long-lasting effect allows damaged skin to heal (Been et al, 2016).

The solution dries rapidly upon application and has elastomeric properties, adhering to the contours of the skin to provide a uniform film. The film possesses good oxygen and moisture vapour permeability and has been found to reduce pain associated with IAD. (Brennan et al, 2017). Cavilon Advanced Skin Protectant is suitable for use from birth (37 weeks gestation). Cavilon Advanced only requires application twice a week for either intact or injured skin.

### **Cavilon Wipes**

Cavilon Continence Care Wipes and Bathing & Cleansing Wipes offer the advantage of simplifying care by enabling clinicians to cleanse, protect and restore patients' skin with an all-in-one product. This helps by reducing the number of steps involved, saving clinician and caregiver time, and potentially encouraging adherence to a skin care regimen.

The wipes are pH-balanced, perfume and paraben-free and are quick-drying. They are supplied in packs of eight wipes and are

designed to cleanse and moisturise the skin, with the continence care wipe containing 3% dimethicone to cleanse, protect and restore the skin from the effects of incontinence.

Structured skin care regimens that incorporate gentle cleansing and the use of skin protectants have been shown to reduce the incidence of IAD (Beeckman et al, 2009) and have been associated with a reduction in the development of Stage I pressure ulcers (Bale et al, 2004).

## **HOW TO APPLY CAVILON PRODUCTS**

### **Cavilon Durable Barrier Cream**

- The skin should be clean and dry prior to application of Cavilon Durable Barrier Cream
- Apply the cream sparingly, in successive pea-sized amounts, to cover the entire affected area, and rub in gently until the cream is absorbed
- If the skin feels oily, too much cream has been applied and should be reduced at the next application
- Reapplication is recommended twice a day, or day and night
- When used to moisturise severely dry skin, apply daily or more often as needed.

### **Cavilon No Sting Barrier Film**

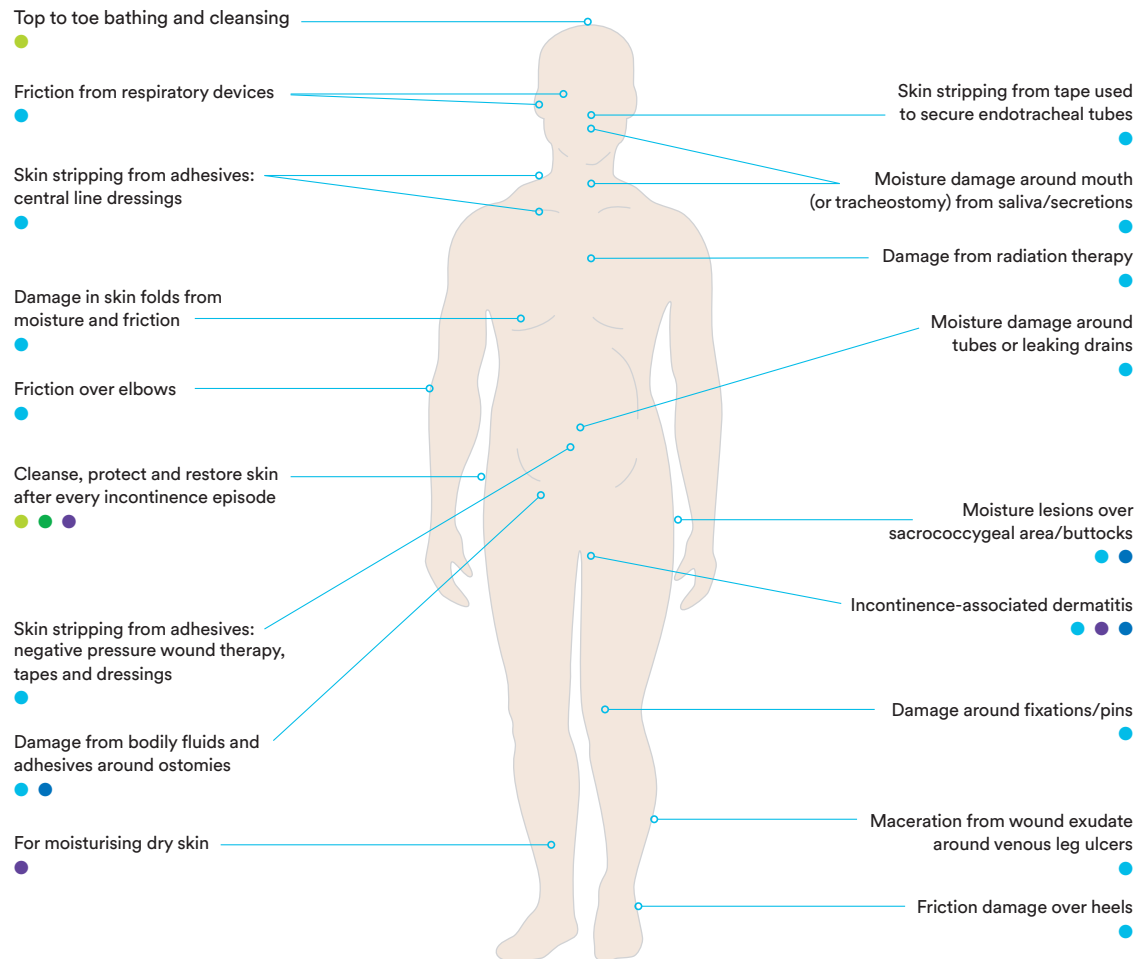
Cavilon No Sting Barrier Film is available in a variety of easy-to-apply formats, including impregnated foam applicators (wands), pump spray and a wipe. Clinical assessment will dictate which format to use (e.g. indication for use, aseptic technique required, size of area, duration of treatment).

- Skin should be clean and dry prior to application of Cavilon No Sting Barrier Film
- Apply a uniform coating of the film over the entire treatment area
- When using the spray bottle, hold the spray nozzle 10-15cm away from the skin and apply in a smooth, even coating over the entire treatment area while moving the spray in a sweeping motion
- If an area is missed, reapply to that area only after the first application has dried (this will take approximately 30 seconds)
- If Cavilon No Sting Barrier Film is applied to an area with skin folds or where there is other skin-to-skin contact, make sure that the skin contact areas are separated and allow the coating to dry before returning skin to the normal position
- Reapplication is recommended every 48-72 hours under normal use, or more frequently as required. If used around a wound or stoma, reapplication is needed after each adhesive dressing/stoma pouch change.

If using Cavilon No Sting Barrier Film around a vascular access site to protect from MARS, the 1ml wand is the recommended option due to the peel-open packaging allowing an aseptic non-touch technique. Always ensure that the film is applied at least 1cm from the insertion site.

**Figure 1 | Cavilon products at a glance**

## VERSATILE SOLUTIONS TO MANAGE AND PREVENT SKIN BREAKDOWN



### Key

- **3M™ Cavilon™ No Sting Barrier Film** To prevent and treat skin damage from Friction, Adhesive trauma and Bodily fluids
- **3M™ Cavilon™ Durable Barrier Cream** For incontinence skin care and moisturising dry skin
- **3M™ Cavilon™ Advanced Skin Protectant** For treatment of moderate to severe skin damage and protection of skin at high risk of breakdown
- **3M™ Cavilon™ Bathing & Cleansing Wipes** For top to toe bathing and cleansing
- **3M™ Cavilon™ Continence Care Wipes** To cleanse, protect and restore skin for incontinent skin care

### Box 1. Ideal characteristics of a skin barrier product

The IAD Best Practice Principles document (Beeckman et al, 2015) identifies the key risk factors for IAD, and outlines the general characteristics of the ideal product for prevention and management of IAD as follows:

- Clinically proven to prevent and/or treat IAD
- Close to skin pH
- Low irritant potential/hypoallergenic
- Does not sting on application
- Transparent or can be easily removed
- Removal/cleansing considers caregiver time and patient comfort
- Does not increase skin damage
- Does not interfere with the absorption or function of incontinence management products
- Compatible with other products used (e.g. adhesive dressings)
- Acceptable to patients, clinicians and caregivers
- Minimises number of products, resources and time required to complete skin care regimen
- Cost-effective

## Cavilon Advanced Skin Protectant

- The skin should be clean and dry prior to application of Cavilon Advanced Skin Protectant
- Aim the applicator sponge downward and firmly depress the lever to break the internal ampoule
- Keep the applicator pointed in a downward position for approximately 10 seconds to allow the fluid to fill the foam sponge
- Using an even, sweeping motion, with minimal overlap of the product, apply the product to the affected area and skin exposed to bodily fluids, such as urine and/or faeces. The applicator may be used in any direction
- Allow the area to dry for at least 30 seconds. If an area is missed, wait until the fluid has dried completely before applying additional product
- If Cavilon Advanced Skin Protectant is applied within a skin fold or other area of skin-to-skin contact, make sure that the skin surfaces are separated to allow the fluid to dry before allowing skin to return to the normal position
- When used under adhesive tapes, dressings, or devices, allow the product to dry for approximately one minute before covering with adhesive products
- Reapplication is recommended twice a week. Cavilon Advanced Skin Protectant is waterproof and is not removed by routine cleansing. More frequent application may result in build-up of the product

- Cavilon Advanced Skin Protectant must not be used as a wound dressing for full thickness wounds or in or around the eyes.

## REMOVAL OF CAVILON PRODUCTS

Cavilon skin care products do not require removal and will wear off naturally. However, in the rare circumstances where removal is required, standard medical adhesive removers may be used for Cavilon No Sting Barrier Film. If removal is required for Cavilon Advanced Skin Protectant, an adhesive remover that contains hexamethyldisiloxane (HMDS) or silicone polymer must be used.

## CLINICAL EVIDENCE FOR CAVILON SKIN CARE PRODUCTS

Cavilon skin care products are supported by numerous clinical publications that cover a wide range of clinical indications such as peri-wound, peristomal, prevention and treatment of incontinence associated dermatitis, topical negative pressure and moist skin desquamation in radiation therapy (Table 2).

Figure 2 shows the levels of evidence for Cavilon Durable Barrier Cream and Cavilon No Sting Barrier Film and the wide range of clinical use which is continually growing in evidence.

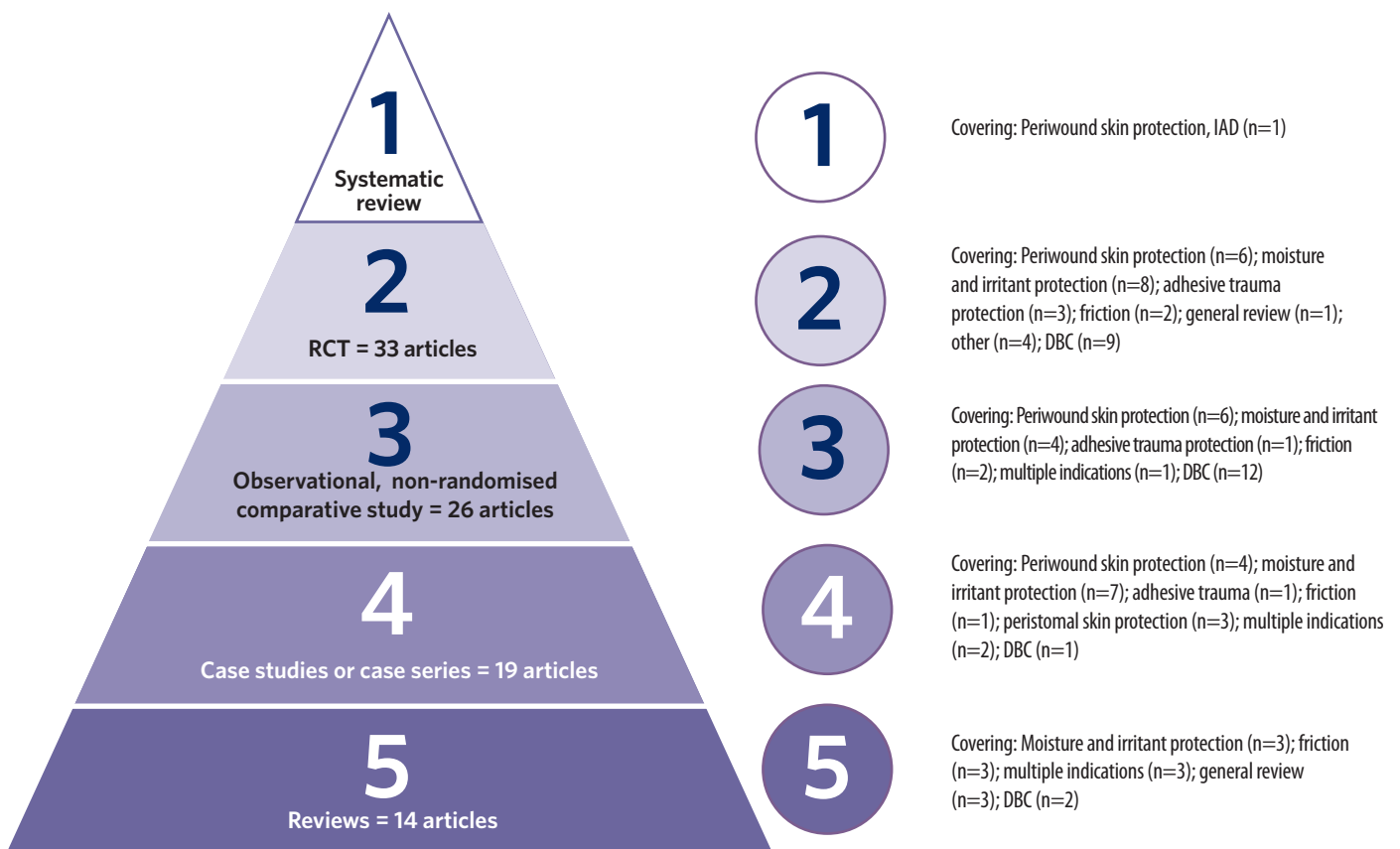


Figure 2 | Hierarchy of evidence

**Table 2. Examples of published data of Cavilon skin care product(s).**

Publication	Cavilon skin care product(s)	Clinical area(s)	Summary
Guest et al (2011)	Cavilon No Sting Barrier Film	IAD Peri-wound	A systematic review of publications relating to Cavilon No Sting Barrier Film provided data on 1,563 patients treated with the barrier film or a comparator. The publications comprised prospective studies, randomised and non-randomised studies, multicentre trials, single-centre reports and a volunteer study. Cavilon No Sting Barrier Film was more effective than zinc oxide formulations in preventing IAD. Cavilon No Sting Barrier Film was effective in peri-wound skin protection and was more cost-effective than either petroleum ointments or zinc oxide formulations in managing IAD and peri-wound skin protection.
Guest et al (2012)	Cavilon No Sting Barrier Film	Peri-wound of leg ulcer patients	A large UK database study compared costs and outcomes of leg ulcer patients by comparing matched populations of those that did and did not receive Cavilon No Sting Barrier Film on the leg ulcer peri-wound. A significantly greater reduction in wound size among patients in the Cavilon No Sting Barrier Film group than in the other two groups ( $p < 0.001$ ) was reported. Resource costs were similar between the three groups. The authors concluded that the use of Cavilon No Sting Barrier Film led to significantly greater wound size reduction than observed in the other two groups and may facilitate the healing of larger wounds without increasing costs.
Bliss et al (2007)	Cavilon No Sting Barrier Film	IAD	Bliss et al examined the cost effectiveness, product costs and labour costs of four skin care regimens for prevention of IAD in nursing home residents. There was found to be no significant difference in the effectiveness of the skin care regimens, however Cavilon No Sting Barrier Film applied three times a week was found to be the most economic, having significantly lower costs associated with its use.
Graham et al (2004)	Cavilon No Sting Barrier Film	Radiation treatment-induced moist skin desquamation	The effects of prophylactic use of Cavilon No Sting Barrier Film on the rates of radiation treatment-induced moist desquamation among post-mastectomy patients compared with an all-purpose moisturiser was studied in 61 patients. There was significantly less moist desquamation in the Cavilon No Sting Barrier Film group compared to the comparator group. Pruritus was also significantly reduced in the Cavilon No Sting Barrier Film group. Pain levels were generally low and were not significantly different between the treatment groups. Cavilon No Sting Barrier Film reduced the duration and frequency of radiation induced moist desquamation.
Bale et al (2004)	Cavilon Skin Care Products	IAD	The objective of the study was to evaluate the effect of a new skin care protocol on patient's skin condition, staff time and associated costs in a nursing home ( $n=164$ ). The new skin care protocol consisted of Cavilon No-Rinse Skin Cleanser and Cavilon Durable Barrier Cream for patients with intact skin or mild IAD, and Cavilon No Sting Barrier Film for patients with moderate or severe IAD. Following the new skin care protocol, skin condition was maintained or improved, resulting in a significantly lower incidence of IAD. There was also a significant reduction in time to deliver the skin care post-intervention. Staff adherence to the new skin care protocol was good.
Brennan et al (2017)	Cavilon Advanced Skin Protectant	IAD	In an open-label prospective study of 16 patients with IAD, Cavilon Advanced Skin Protectant was found to provide an appropriate environment for skin healing and led to reduced IAD scores in 13 patients. It also led to reduced reported IAD-associated pain scores during cleansing and subsequent product applications.

**Due to the large amount of clinical evidence available, please contact 3M for your specific needs**

## COST BENEFITS OF A SKIN CARE PROTOCOL

The heavy cost burden of treating MASD and associated complications can be reduced by following an effective skin care protocol, which can reduce nursing time and additional resources.

A number of studies have reviewed the cost effectiveness of using peri-wound skin protectants in patients with venous leg ulcers. Cameron et al (2005) compared the efficacy and cost-effectiveness of two skin protectants, Cavilon No Sting Barrier Film and zinc paste compound, in the management of maceration and irritation of the peri-wound area of venous leg ulcers. There was a significant difference in time required to remove and re-apply the two skin protectants: an average of 0.19 (±0.17) minutes in the Cavilon No Sting Barrier Film group and 5.53 (±2.10) minutes in the zinc paste group. Cavilon No Sting Barrier Film was easier to apply and as it is transparent, did not require removal for skin assessment. The zinc paste group required more nursing time as it was more difficult to apply and remove.

Bale et al (2004), Bliss et al (2007) and Guest et al (2011), all summarised in Table 2, showed that there was a reduction in time to deliver the skin care post intervention when Cavilon skin care products were used compared to a comparator group. Guest et al (2011) found Cavilon No Sting Barrier Film to be at least as clinically effective and potentially more cost effective in IAD prophylaxis and peri-wound skin protection than petroleum ointments or zinc oxide formulations.

It is known that incontinence contributes to the development of pressure ulcers (Beeckman et al, 2014), which are expensive to treat, potentially leading to extended hospital stays (Demarre et al, 2014). Pressure ulcer prevention is cost saving compared to treatment and management. Large (2011) describes the introduction of a pressure ulcer prevention strategy at a 78-bed nursing home in the UK. Cavilon Durable Barrier Cream was applied to the vulnerable skin of incontinent patients and an aqueous cream was used as a soap substitute. Dermal pads were used for patients at risk of pressure ulcers. In this study, only small changes were made to daily practice, yet the outcome was significant as the incidence of pressure ulcers was eliminated during the study period. There was also a reduction of costs for ongoing wound care.

## SUMMARY

Cavilon skin care products provide safe, easy to use, and effective skin protection that can help to prevent and treat

moisture associated skin damage such as IAD, peri-wound and MARSI.

Cost-effectiveness data have also indicated that Cavilon skin care products can reduce costs when compared with traditional barrier products.

## REFERENCES

- Bale S et al (2004) The benefits of implementing a new skin care protocol in nursing homes. *J Tissue Viability* 14(2): 44-50
- Beeckman D et al (2009) Prevention and treatment of incontinence-associated dermatitis: literature review. *J Adv Nurs* 65(6): 1141-54
- Beeckman D et al (2014) A systematic review and meta-analysis of incontinence-associated dermatitis, incontinence, and moisture as risk factors for pressure ulcer development. *Res Nurs Health* 37(3): 204-18
- Beeckman D et al (2015) Proceedings of the Global IAD Expert Panel. Incontinence associated dermatitis: moving prevention forward. *Wounds International*
- Been RA et al (2016) In vivo methods to evaluate a new skin protectant for loss of skin integrity. *Wound Repair Regen* 24(5): 851-9
- Bliss DZ et al (2007) An economic evaluation of four skin damage prevention regimens in nursing home residents with incontinence. *J Wound Ostomy Continence Nurs* 34(2):143-52
- Brennan M et al (2017) Clinical evaluation of a skin protectant for the management of incontinence-associated dermatitis. *J Wound Ostomy Continence Nursing* 44(2):172-80
- Cameron J et al (2005) Comparison of two peri-wound skin protectants in venous leg ulcers: a randomised controlled trial. *J Wound Care* 14(5): 233-6
- Demarre L et al (2014) Factors predicting the development of pressure ulcers in an at-risk population who receive standardized preventive care: secondary analyses of a multicentre randomised controlled trial. *J Adv Nurs* doi: 10.1111/jan.12497
- Graham J et al (2004). Randomized, paired comparison of Cavilon No Sting Barrier Film versus Sorbolene cream (10% glycerine) skin care during postmastectomy irradiation. *Int J Radiation Oncol Biol Physics* 58 (1) 241-6
- Guest JF et al (2011) Clinical and economic evidence supporting a transparent barrier film dressing in incontinence-associated dermatitis and peri-wound protection. *J Wound Care* 20(2):76, 78-84
- Guest JF et al (2012) Relative cost-effectiveness of a skin protectant in managing venous leg ulcers in the UK. *J Wound Care* 21 (8) 389-398
- Houser T et al (2010). A comparison of the durability of four barrier film products over a 72-hour period on human volunteers. Poster, *Advances in Skin and Wound Care*
- Langemo D et al (2011) Incontinence and incontinence-associated dermatitis. *Adv Skin Wound Care* 24(3): 126-40
- Large J (2011) A cost-effective pressure damage prevention strategy. *Br J Nurse* 20(6):S22-5
- Park K (2014) The effect of a silicone border foam dressing for prevention of pressure ulcers and incontinence-associated dermatitis in intensive care unit patients. *J Wound Ostomy Continence Nurs* 41(5): 424-9



Supported by 3M UK PLC  
Tel: 0330 053 8938  
Email: C3SD@mmm.com  
Website: www.cavilon.co.uk