Defining the Value of Preventive Skin Care
SECURA, a fundamental ingredient of SKINEQUITY®
Invest in Prevention

SKINEQUITY™ is a prevention philosophy from Smith & Nephew that combines the SECURA™ Skin Care System with industry leading Medical education programs to improve clinical, emotional, and financial outcomes in healthcare settings.

The Clinical Need
Pressure ulcers pose a significant public health problem, with the incidence ranging from <1% to 38% in the acute setting and from 2.2% to 23.9% in the long-term setting.¹ Skin tissue injuries deplete healthcare resources at an alarming rate, with the expense of treating one case ranging from $500 to $50,000.² In an acute care setting, the average length of hospital stay can increase by 4 to 17 days among patients with pressure ulcers and related complications.³

For patients, pressure ulcers cause great pain and discomfort, decreasing quality of life. Infections, secondary to pressure ulcers, are associated with increased morbidity—and even mortality—in bed-bound individuals. Pressure ulcers can be demoralizing to both patients and staff.

The Emotional Benefits
The development of a preventable pressure ulcer devastates patients, families, and staff. Published literature suggests that good preventive care can result in less skin breakdown and fewer pressure ulcers and leads to emotional benefits for patients, families, and caregivers. Good skin care can have a positive impact on the patients’ overall health, including morale, self-esteem, and susceptibility to pain and infection. Families are reassured when quality care is evident and gain confidence in the staff and facility. Caregivers are motivated when they see the difference they can make. And a motivated staff leads to increased perceptions of empowerment, employee satisfaction and lower staff turnover rates.

The Financial Return
Proactive preventive skin care programs deliver a financial benefit by reducing overall treatment costs. Incremental costs associated with skin breakdown and tissue damage, like increased patient morbidity and longer hospital stays, can be minimized or even avoided. Consistent preventive care decreases the likelihood that a patient will develop a life-threatening pressure ulcer that could result in fines or lawsuits.

Clinical evidence now shows that establishing preventive skin care protocols can significantly reduce the incidence of pressure ulcers.⁴ The Federal Government, through the Agency for Healthcare Research and Quality (AHRQ), developed and instituted guidelines for the prevention of pressure ulcers.

The goal of the SKINEQUITY™ prevention philosophy is to educate caregivers about the benefits of prevention and quality skin care products so that the incidence of pressure ulcers and other skin breakdown can be reduced. This leads to improved patient care, motivated caregivers, and a reduction in total healthcare costs.
Recognizing the Challenges of Preventive Care

Caregiver ownership, motivation and ability to change behaviors are vital to successful preventive care and the SKINEQUITY™ philosophy. Recognizing the caregivers’ ability to make a difference enhances the value of prevention and early intervention. Prevention and early intervention are investments in patients’ overall health. Caregiver education enhances patient care and outcomes. Caregivers are motivated when the clinical and emotional outcomes can be experienced firsthand. Knowledge leads to results.

Staff shortages and turnover are ongoing challenges in all healthcare settings. This makes education all the more crucial, as caregivers are the front line for assessment and early intervention. Educational tools, like SKINEQUITY, are vital to maintaining a consistently trained and motivated staff.

Hospitals and long-term care facilities face increasing scrutiny as patients and their families have access to more and more public information, including Federal Government statistics on the occurrence of pressure ulcers. Implementing prevention programs, like SKINEQUITY, can help reduce the occurrence of pressure ulcers and other skin breakdown and may reduce a facility’s exposure to liability. Successful prevention programs can also create positive relationships with patients and families and can build community reputation for the facility.

Providers face a constant threat of litigation related to the development of skin breakdown and pressure ulcers. Implementing an effective preventive skin care program like SKINEQUITY may help limit a facility’s exposure to liability.
One goal of the SKINEQUITY™ prevention program is to empower caregivers by providing consistent education, training, and high-quality products. Adopting the AHRQ guidelines and staying current with the latest clinical research helps to ensure high-quality care. Topics addressed by the SKINEQUITY™ program include:

- skin anatomy and physiology
- factors associated with aging and other at-risk skin
- risk assessment tools and the use of risk scores
- principles of wound prevention and early intervention
- designing and implementing best-practice skin care protocols
- considerations in mechanical loading and support surfaces
- clinically based in-services for prevention education and product training
- continuing education unit–accredited education for nurses
- prevention education specifically designed for nursing assistants

The SKINEQUITY™ philosophy is an investment in caregivers and patients that results in positive clinical, emotional, and financial outcomes.

1. Knowledge. With knowledge, caregivers can prevent or reduce skin breakdown. Preventive skin care is important to the patients’ quality of life.

Understanding the anatomy and physiology of skin and what risk factors contribute to breakdown empowers employees to intervene earlier and take ownership for patient care.

2. Protection. All skin care products are not created equal. Skin does know the difference. Protecting vulnerable skin means knowing what products to use and how and when to use them. It is important to know what ingredients to look for in skin care products—and which to avoid.

3. Results. Preventive skin care pays off clinically through improved outcomes and fewer complications, including a decreased incidence of pressure ulcers. Financial benefits are seen in shorter hospital stays, lower treatment costs, and less exposure to liability risk. Emotionally, when staff members see their efforts make a difference in patient care, it builds teamwork, motivation, and ownership.

Research shows that organizational variables (resources, information, support) have a strong influence on behaviors and attitudes in the workplace, and these changes in attitudes have a positive impact on patient care.⁵
Recognizing Risk Factors for Skin Breakdown

Healthy, intact skin provides a barrier against microorganisms and is crucial to patient welfare. Preventing skin breakdown begins with identifying patients at risk and recognizing the warning signs that can lead to breakdown.

The risk for the development of skin breakdown can be based on the presence of intrinsic and extrinsic risk factors. Understanding and recognizing these factors proactively helps staff members provide optimal care for patients at higher risk.

**Intrinsic factors**

Intrinsic factors are related to the patients’ overall health status and include:

- **Age**—Skin changes considerably with age, making it more vulnerable to breakdown. Skin cell turnover slows. The composition of sebum, an oily substance that seals in moisture and creates the skin’s naturally acidic environment, changes. Additional changes occur that make the skin thinner and drier, compromising the skin’s ability to perform its barrier function and ward off infection.

- **Poor nutrition**—Improper nutrition, especially insufficient amounts of protein, fats, vitamins, minerals, and water, can impede the skin’s ability to repair itself. Wounds pose additional challenges to a patient’s nutritional status. Wounds can create a stress response within the patient, resulting in catabolism, hypermetabolism, and decreased immune function. This increased stress response requires increased nutritional requirements.

- **Medication**—Prescription drugs may have detrimental effects on the skin. Topical steroids are associated with thinning of the skin. Several classes of medications, including antihypertensives, tricyclic antidepressants, antihistamines, and others, can increase the skin’s sensitivity to sunlight.

- **Sensory perception**—Poor sensory perception, such as that caused by diabetic neuropathy, increases the risk of pressure ulcer development. Patients may not feel the discomfort that signals the onset of skin breakdown and, thus, fail to reposition themselves to reduce pressure.

- **Cognitive function**—As mental status declines, patients become unable to communicate their need for repositioning, toileting, or pain control.

- **Mobility**—Limited movement predisposes patients to pressure ulcer development because they cannot reposition themselves to maintain proper blood flow.

- **Health status**—Patients with diabetes or cardiovascular disease are more likely to develop pressure ulcers. This can be caused by decreased sensations and limited feelings of pain in extremities, or by vascular complications that do not permit sufficient blood flow to oxygenate tissues.

**Extrinsic factors**

Extrinsic factors refer to stresses put on the skin by the patients’ surroundings and include:

- **Pressure**—Body weight can squeeze blood vessels between the resting surface and bony prominences. This interrupts vital blood flow that delivers oxygen and other nutrients to the skin and leads to tissue and skin breakdown. Reducing pressure by turning patients regularly, positioning patients carefully, and suspending heels helps reduce the risk of tissue damage.
• **Friction**—Friction occurs when the patients’ body—usually the elbows or heels—rub against a rough surface, like a sheet. Friction can be reduced by repositioning a patient using a lift sheet, as shown to the right, rather than by sliding the patient across the bed.

• **Shear**—Shear occurs when the head of the bed is raised. Although the skin and tissue remain stationary, the body’s skeleton is forced downward by gravity. This can twist and compress blood vessels, depriving the skin of oxygen and nutrients. Keeping the head of the bed at an angle less than 30 degrees is one way to reduce shear, unless the patient’s health status dictates otherwise.

• **Moisture**—Moisture softens skin and weakens its integrity, causing it to break more easily. Effective management of moisture, whether due to wound exudate, ostomy fluids, perspiration, or incontinence episodes, is essential to keep patients from developing moisture-related skin problems like maceration. Fecal incontinence causes a great risk of skin breakdown due to enzymes present in feces, which attack the skin and are further stimulated by the presence of urine.

• **Soap and water**—Harsh detergents strip the skin’s natural lipid layer and compromise the natural barrier, the epidermis. Ionic surfactants can cause irritation, drying, and alter the skin’s pH level, which leaves skin susceptible to breakdown.
Assessment Tools Help Determine Risk
A number of assessment tools have been developed to indicate a patient’s risk for developing a pressure ulcer. The Braden Scale has been tested extensively. The Braden Scale comprises 6 subscales that reflect sensory perception, skin moisture, physical activity, nutritional intake, friction and shear, and the ability to change and control body position. Each subscale is rated on a scale of 1 (low) to 4 (high), except for the friction and shear category, which is scored 1 to 3. Adult hospitalized patients with a score of 16 or lower are considered to be at risk. In older populations, a score of 18 or lower might be a more effective predictor of pressure ulcer formation.

Risk assessment tools should be used to trigger interventions to reduce the incidence of tissue damage. Perhaps more important than the total score, is the significance of a low score within any of the subsets. For example, if the patient scores low on the nutrition subset, a referral for dietary consultation may be recommended.

Because skin breakdown can occur quickly, patients should be assessed upon admission and at regular intervals. Patients determined to be at high risk should have a skin inspection every day or during bathing. The primary caregivers should be familiar with the signs of tissue damage as well as emerging pressure ulcers. The following changes are examples of tissue damage that should be addressed immediately:

- **Reddened or discolored (bluish or purplish) skin.** Such discoloration may represent a stage I pressure ulcer, especially if accompanied by temperature change (warm or cool) or changes in skin tone (firm or boggy).

- **Blistered heel.** A blister on the heel is evidence of tissue damage. If the blister is a result of pressure, it may be defined as a stage II pressure ulcer.
**Skin tears.** Excessive dryness can lead to skin tears, which provide an entry point for microorganisms. Moisturizing the skin regularly to replenish lost moisture may reduce the likelihood of skin tears. When transporting or repositioning patients, use caution to avoid skin tears. If skin tears develop, cleanse gently and apply a nonadherent dressing.

**Black heel.** Keep all black heels off the bed surface. Assess the situation. A hard, black covering, called eschar, usually represents deep tissue damage. Black heels must be assessed every day. Dry, intact eschar on the heel may be left in place. Intervention is required if the eschar is fluctuant (boggy) or if exudate is present. Arterial status should be evaluated for any patient with evidence of tissue damage on the lower extremities.

**Rashes.** Rashes may be caused by a number of things, including fungal infections. All rashes should be evaluated and treated appropriately. Keep the rash dry and watch for any changes.
Cleansing: The First Step in Protection

“... a no-rinse cleanser in conjunction with a moisture barrier is a more skin-preserving and cost-effective incontinence care cleansing regimen than soap and water.”

Thorough, yet gentle cleansing, is vital to maintaining skin integrity especially when caring for incontinent patients. Traditional soap and water is often too harsh for fragile skin. Soap does not rinse well; it leaves a residue on the skin. Also, most soap products have high pH levels, which can interfere with the skin’s acid mantle—a natural deterrent to bacterial invasion. And soaps contain anionic surfactants, which can irritate the skin and remove its natural lubricants. The use of soap is associated with transepidermal water loss and bar soap serves as a medium for bacteria.

The use of soap and water is also more time consuming than a no-rinse cleanser. One-step, no-rinse cleansers, such as those developed by Smith & Nephew, have been shown to provide benefits over soap-and-water bathing by reducing dryness. In a 4-month retrospective study, protocols that included a no-rinse cleanser resulted in a decline in the prevalence of skin tears from 23.5% to 3.5% when compared with the previously used soap and water regimens. Reductions in caregiver time and overall costs were also documented.

Skin-friendly ingredients are essential for effective, gentle cleansing without stressing vulnerable skin. Key points to consider include:

- **Surfactants.** Some surfactants, such as sodium laurel sulfate, utilize an ionic charge. These products strip the skin of natural oils, causing irritation and dryness and increasing the risk for skin tears. SECURA™ cleansers use the nonionic surfactant, polysorbate 20, to cleanse without causing irritation.

- **pH-balance.** The skin's normal pH level is 4.8 to 5.6, or slightly acidic. Many cleansers can disrupt this balance, causing dryness and allowing for proliferation of bacteria. This is especially critical in the perineal area, where skin exposed to urine and feces can become alkaline, raising the risk of dermatitis. All SECURA™ cleansers are pH-balanced or pH-buffered to protect the skin's acid mantle.

- **Antimicrobial properties.** Skin exposed to excessive moisture can become macerated, which reduces its integrity and makes it more susceptible to infection. Antimicrobials are important ingredients because they help prevent bacterial infection. Antimicrobial agents also eliminate odor-causing bacteria, which is important for patients, families, and caregivers. All SECURA™ cleansers include benzethonium chloride, an antimicrobial proven effective against common pathogens such as *Staphylococcus aureus* as well as additional strains of staphylococci and streptococci.

The SKINEQUITY® philosophy advocates 4 key steps for preventive skin care: cleanse, protect, moisturize, and treat. Product ingredients are equally important. Select high-quality products that are formulated with gentle, effective ingredients that will not harm fragile skin.
Cleansers

Table 1. Skin-Friendly Ingredients for Effective Skin Cleansers and Their Role in Prevention

<table>
<thead>
<tr>
<th>Ingredient Examples</th>
<th>Attribute</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzethonium Chloride</td>
<td>Antimicrobial agent</td>
<td>Reduces odor, reduces growth of microorganisms</td>
</tr>
<tr>
<td>Sodium Citrate Citric Acid</td>
<td>pH-balanced: formulated to match skin's natural pH, pH buffered: maintains pH of formulation</td>
<td>Integral to maintaining skin integrity, balanced pH maintains skin's acid mantle, high pH can promote growth of microorganisms and cause skin dryness, low pH can cause irritation</td>
</tr>
<tr>
<td>Polysorbate 20</td>
<td>Nonionic surfactant</td>
<td>Primary cleansing agent, minimal potential for irritation</td>
</tr>
<tr>
<td>Glycerin Propylene Glycol Aloe</td>
<td>Moisturizing agents</td>
<td>Maintains proper hydration after cleansing</td>
</tr>
<tr>
<td>Polyquaternium</td>
<td>Film-forming polymers</td>
<td>Leaves a thin film layer on skin to help maintain skin integrity, retard moisture loss</td>
</tr>
</tbody>
</table>

SECURA® Cleansers

SECURA® Personal Cleanser
- No-rinse, one-step cleansing for perineum and body saves time
- Aids in removal of urine, feces, or other foreign material
- Gentle surfactants will not irritate skin
- Contains an antimicrobial agent to reduce odor
- Conditions and moisturizes skin
- pH-buffered to protect the skin's acid mantle

SECURA® Total Body Foam Cleanser
- No-rinse, high-density foam for one step cleansing
- For perineum, body, and hair
- Aids in removal of urine, feces, or other foreign material
- Gentle surfactants will not irritate skin
- Contains an antimicrobial agent to reduce odor
- Conditions and moisturizes skin
- pH-buffered to protect the skin's acid mantle
- No tears formula

SECURA® Moisturizing Cleanser
- No-rinse, one-step cleansing for perineum and body saves time
- Aids in removal of urine, feces, or other foreign material
- Gentle surfactants will not irritate skin
- Contains an antimicrobial agent to reduce odor
- Conditions and moisturizes skin
- pH-balanced to protect the skin's acid mantle
- Contains aloe and glycerin to condition and moisturize skin
- Safety evaluated for pediatric use
Skin Protectants: Essential Protection Against Moisture

“Moisture barriers, sometimes called skin protectants, are creams or ointments that shield the skin from exposure to irritants or moisture.”

Repeated exposure to moisture and irritants found in urine and fecal enzymes puts skin at considerable risk for breakdown. Fecal enzymes can irritate skin, causing accelerated skin breakdown. The presence of urine creates an alkaline environment, which further accelerates the detrimental effects of fecal enzymes. Urine can also affect the skin’s natural acid mantle, increasing skin permeability. Many components of urine can also promote the overgrowth of microorganisms, which can lead to cutaneous irritation, inflammation, and infection.

Moisture, such as that caused by perspiration and exudate, reduces the strength of skin and increases damage due to friction. When skin becomes macerated or saturated with moisture (like urine), it loses its ability to act as a barrier to protect against fecal enzymes and irritants found in urine. Skin protectants provide topical protection against external moisture. SECURA® skin protectants seal out wetness and are for the treatment and prevention of rash associated with diaper use or continued exposure to urine and feces.

Skin protectants contain an active ingredient for maximum efficacy. SECURA® skin protectants contain one or more of these three active ingredients:

- **Dimethicone**—A type of silicone. This cream is transparent upon application and dries quickly, allowing for visual inspection of the skin. It leaves no residue, will not wash away, and is less likely to clog briefs.

- **Petrolatum**—A semitransparent ointment that protects and conditions the skin.

- **Zinc oxide**—Provides a high level of protection. This white paste or cream does not absorb and leaves a nontransparent layer. Zinc oxide also provides conditioning and soothing properties.

Skin protectants may include one or more of these ingredients and should be applied after every incontinent episode. Smith & Nephew offers three skin protectants and one Extra Protective Cream. In addition to active ingredients, all SECURA® skin protectants contain moisturizing and conditioning ingredients for time-saving, cost-effective skin care.

The SKINEQUITY® philosophy advocates 4 key steps for preventive skin care: cleanse, protect, moisturize, and treat. Product ingredients are equally important. Select high-quality products that are formulated with gentle, effective ingredients that will not harm fragile skin.
# Skin Protectants

## Table 2. Effective Skin Protectant Ingredients and Their Role in Prevention

<table>
<thead>
<tr>
<th>Active Ingredient Examples</th>
<th>Attribute</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dimethicone</strong> Skin Protectant— Transparent upon monograph level</td>
<td>Helps treat and prevent diaper rash</td>
<td>Helps seal out wetness, Repels moisture, moisturizes/conditions</td>
</tr>
<tr>
<td><strong>Skin Conditioner</strong></td>
<td>Leaves no residue and is less likely to clog briefs</td>
<td>Moisturizes/conditions</td>
</tr>
<tr>
<td><strong>Petrolatum</strong> Skin Protectant—Semi-transparent</td>
<td>Protects minor skin irritation associated with diaper rash and helps protect from wetness</td>
<td>Protects macerated skin</td>
</tr>
<tr>
<td><strong>Zinc Oxide Cream</strong></td>
<td>Provides a high level of protection</td>
<td>Provides a high level of protection, Protects macerated skin</td>
</tr>
<tr>
<td><strong>Zinc Oxide Paste</strong></td>
<td>Provides highest level of protection</td>
<td>Protects macerated skin</td>
</tr>
</tbody>
</table>

## SECURA® Protectants

### SECURA® Protective Ointment
Contains 98% Petrolatum
For treatment and prevention of rash associated with diaper use or exposure to urine and feces
Helps seal out wetness
Removes easily with SECURA® Personal Cleanser or Moisturizing Cleanser
Clove oil helps mask odor
Vitamins A and E soothe and condition sensitive skin

### SECURA® Protective Cream
Contains 10% Zinc
For treatment and prevention of rash associated with diaper use or exposure to urine and feces
Helps seal out wetness
Removes easily with SECURA® Personal Cleanser or Moisturizing Cleanser
Clove oil helps mask odor
Aloe, vitamin E, and allantoin moisturize and condition the skin
Pediatrician tested for safety

### SECURA® Dimethicone Protectant
Contains 5% dimethicone for maximum protection
Protects minor skin irritation associated with diaper rash and helps protect from wetness
Helps prevent and temporarily protects chafed, chapped, cracked, or windburned skin and lips
Removes easily with SECURA® Personal Cleanser or Moisturizing Cleanser
Nongreasy; will not wash away
Absorbs quickly
Does not clog briefs
Propylene glycol moisturizes skin
Transparent application allows for visual skin inspection
Conditions and soothes skin

### SECURA® Extra Protective Cream (EPC)
Contains 30% Zinc
For treatment and prevention of rash associated with diaper use or continued exposure to urine and feces
Helps seal out wetness
Removed easily with SECURA® Personal Cleanser or Moisturizing Cleanser
Provides a high level of protection for patients with severe diarrhea
Will not wash away after repeated exposure to urine and feces
Contains karaya to absorb moisture and help the product adhere to weepy, macerated skin
Soothing
Nonsensitizing
Contains vitamin E
Maintains healthy skin
Moisturizing: Vital to Skin Integrity

“To reduce threats to skin integrity, identifying factors that have the potential for damaging the skin, particularly by causing dry skin, is essential.”

Many of the changes in skin that occur with aging manifest as dry skin, which affects as many as 59% to 85% of people older than 64 years. In addition to causing severe discomfort for patients, dry, cracked skin no longer fulfills its important barrier function. As skin ages, there is a change in the composition of sebum—a natural oil that lubricates the skin, helps maintain the acid mantle, and assists in moisture retention. This further reduces the skin’s efficacy as a barrier, reducing its ability to protect itself. As the skin becomes dry, it loses elasticity, making it more susceptible to skin tears, cracking, and fissures. An estimated 1.5 million skin tears occur annually in institutionalized elderly patients. Broken skin may increase the risk for infection by serving as an entry point for harmful bacteria and other microorganisms.

When choosing a moisturizer, look for ingredients that maintain the skin’s moisture (humectants) or promote moisture retention (emollients). Apply moisturizers gently; avoid vigorous massage. Do not apply between the toes.

All SECURA™ moisturizers contain emollients and humectants to hydrate and condition the skin. SECURA™ moisturizers are nongreasy and absorb quickly.

The SKINEQUITY™ philosophy advocates 4 key steps for preventive skin care: cleanse, protect, moisturize, and treat. Product ingredients are equally important. Select high-quality products that are formulated with gentle, effective ingredients that will not harm fragile skin.
Moisturizers

Table 3. Skin-Friendly Ingredients for Effective Moisturizers and Their Role in Prevention

<table>
<thead>
<tr>
<th>Ingredient Examples</th>
<th>Attribute</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerine Propylene Glycol</td>
<td>Humectant</td>
<td>Helps maintain skin moisture by attracting water to the skin</td>
</tr>
<tr>
<td>Cetyl Alcohol Stearyl Alcohol</td>
<td>Primary: emulsifier  Secondary: emollient</td>
<td>Fatty alcohols maintain stability by preventing product separation Softens and soothes skin</td>
</tr>
<tr>
<td>Petrolatum Dimethicone</td>
<td>Emollient</td>
<td>Helps maintain moisture retention in the skin Softens and soothes skin</td>
</tr>
<tr>
<td>Aloe Vera Vitamin A Allantoin</td>
<td>Conditioner</td>
<td>Conditions and moisturizes dry skin</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>Antioxidant</td>
<td>Maintains healthy skin</td>
</tr>
</tbody>
</table>

SECURA™ Moisturizers

SECURA™ Moisturizing Lotion
- Use daily to moisturize dry skin
- Contains humectants and emollients to moisturize and condition
- Gentle to sensitive skin
- Maintains healthy skin
- Absorbs quickly
- Fragrance free

SECURA™ Moisturizing Cream
- Restores moisture to very dry skin
- Conditions, soothes, re-hydrates
- Contains petrolatum and vitamin E
- Absorbs quickly
Treat Fungal Infections With Early Intervention

“Fungal infections are common in all age groups, including the elderly. However, proper therapy for these prevalent conditions leads to a better quality of life.”

Fungal infections are commonly caused by tinea corporis (ringworm), tinea cruris (jock itch), and tinea pedis (athlete’s foot) or Candida albicans (yeast). These superficial infections pose a serious threat to skin integrity and can cause discomfort in the form of burning and itching. Fungal infections, which usually appear as red, irritated patches accompanied by satellite lesions (lesions outside the primary margin of the rash) and/or raised vesicular pustules, should be treated at first onset.

Microorganisms flourish in a warm, moist environment. For this reason, fungal infections are frequently seen surrounding the perineum, the perineal area, and areas such as the breast and inguinal skin folds. Use of antibiotics, which alter normal skin flora, may predispose patients to fungal infections. Other health conditions, such as diabetes or those that leave the patient immunocompromised, can also increase patients’ susceptibility to fungal infections. The irritation caused by these infections leads to rapid skin breakdown.

SECURA™ antifungal products are formulated with the active ingredient miconazole nitrate 2%, proven effective against superficial fungal infections. In addition, the products also contain high-quality moisturizers and emollients to help relieve burning, itching, scaling, cracking, chafing, and redness associated with these conditions.

The SKINEQUITY™ philosophy advocates 4 key steps for preventive skin care: cleanse, protect, moisturize, and treat. Product ingredients are equally important. Select high-quality products that are formulated with gentle, effective ingredients that will not harm fragile skin.
## Antifungals

### Table 4. Effective Antifungal Ingredients and Their Role in Prevention

<table>
<thead>
<tr>
<th>Ingredient Example</th>
<th>Attribute</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miconazole Nitrate</td>
<td>Antifungal</td>
<td>Treats superficial fungal infections, including jock itch (tinea cruris), ringworm (tinea corporis), athlete's foot (tinea pedis), and yeast (Candida albicans) Relieves burning, itching, scaling, cracking, chafing, and redness associated with these conditions</td>
</tr>
<tr>
<td>Allantoin</td>
<td>Conditioner</td>
<td>Conditions and soothes dry skin</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>Conditioner</td>
<td>Conditiones and moisturizes skin</td>
</tr>
<tr>
<td>Petrolatum</td>
<td>Emollient</td>
<td>Softens skin Maintains moisture retention</td>
</tr>
<tr>
<td>Cetyl Alcohol</td>
<td>Primary: Emulsifier Secondary: Emollient</td>
<td>Fatty alcohol maintains product stability by preventing separation Maintains moisture retention</td>
</tr>
</tbody>
</table>

### SECURA® Antifungal Treatments

**SECURA® Antifungal Greaseless**
- Contains 2% miconazole nitrate
- Water based
- For treatment of superficial fungal infections, including jock itch (tinea cruris), ringworm (tinea corporis), athlete’s foot (tinea pedis), and yeast (Candida albicans)
- Relieves burning, itching, scaling, cracking, chafing, and redness associated with these conditions
- Contains vitamin E and skin conditioners
- Use in areas not exposed to urine or feces
- Pediatrician tested for safety

**SECURA® Antifungal Extra Thick**
- Contains 2% miconazole nitrate
- For treatment of superficial fungal infections, including jock itch (tinea cruris), ringworm (tinea corporis), athlete’s foot (tinea pedis), and yeast (Candida albicans)
- Relieves burning, itching, scaling, cracking, chafing, and redness associated with these conditions
- Contains vitamin E and skin conditioners
- Contains zinc oxide to protect skin from exposure to urine and feces
- Contains karaya to control moisture and adhere to weepy, macerated skin
- Pediatrician tested for safety
Clinical Results: Preventive Care Can Improve Outcomes

SKINEQUITY™ is a proactive prevention philosophy about improving clinical, financial, and emotional outcomes. The connection between an effective preventive skin care program and a reduction in the incidence of pressure ulcers is well documented in published literature.

Specifically, prevention protocols have been shown to decrease the incidence of pressure ulcers in two long-term care facilities. Neither facility had a standardized treatment protocol in place prior to the study’s onset. Eight months after the implementation of a preventive care program, site 1 saw the incidence of pressure ulcers decrease by 64% and site 2 saw an 85% reduction in the incidence of pressure ulcers during that time period.14 As seen below in Chart 1.

Similar reductions in the occurrence of skin breakdown were seen at a 125-bed nursing home that adopted a formalized preventive care program that included use of Smith & Nephew skin care products. The prevention program was modeled after the AHRQ guidelines and was implemented along with staff education. The home’s residents were assessed using the Braden Scale at baseline and at 2-month increments throughout the 8-month study. The occurrence of pressure ulcers fell 87% in the first 2 months of the program’s implementation and was 96% lower 8 months after program implementation than at baseline.4 As seen below in Chart 2.

It only takes a few minutes a day to provide effective preventive skin care. Investing in a preventative skin care program and high quality skin care products, like SECURA™, may lead to positive clinical, emotional, and financial outcomes that can be quantified.
Reducing Mortality Rates

Pressure ulcers are more than painful sores. In some cases, pressure ulcers may lead to more severe problems, including infections of the bone (osteomyelitis), cellulitis, and sepsis. As seen in one study, these infections have a mortality rate greater than 50%.\textsuperscript{15}

Pressure ulcers are often associated with high mortality rates because they can occur more frequently in frail, sick, and otherwise compromised patients. In the hospital setting, mortality rates are significantly higher in patients who develop a pressure ulcer. Compared with an appropriate at-risk population, one study correlated the presence of pressure ulcers with a twofold increase in mortality and the development of a new ulcer during hospitalization or the presence of a nonhealing ulcer with a threefold increase in mortality.\textsuperscript{16}

The association between pressure ulcers and mortality rates demonstrates the importance of a preventive skin care program to overall patient health. Implementing a prevention skin care program like SKINEQUITY\textsuperscript{™} may help reduce the incidence of pressure ulcers and associated mortality rates.

Emotional Benefits: Employee Motivation and Patient Dignity

Work environments must support employees by providing information, resources, support and the opportunity to learn and develop in order to empower the workforce to change behaviors and improve outcomes. Providing opportunities for nurses to obtain knowledge, resources to accomplish their roles, and administrative and peer support, can lead to workforce empowerment. Caregivers who are supported by their organizations are more successful in achieving organizational goals that can result in reduced staff turnover.

Research supports the assertion that organizational variables have a strong influence on behaviors and attitudes in the workplace and these changes in attitudes have a positive impact on patient care outcomes.\textsuperscript{5}

The SKINEQUITY\textsuperscript{™} philosophy focuses on the role of each caregiver and his or her ability to make a difference and improve patient care. Knowledge, consistent education, and effective products are vital tools that can help motivate caregivers to become involved and take ownership for patient care. And motivated employees lead to lower staff turnover rates.

Quality-of-life benefits extend to patients and their families. Prevention of skin breakdown and fewer pressure ulcers represent the core of prevention programs and equate to higher levels of patient dignity and comfort. Preventive care can also enhance family confidence about the caregivers and the facility.
An effective preventive care program like SKINEQUITY® is an investment in staff and patients. The upfront investment in education and product training may seem significant at first, but the results can be measured in the form of clinical outcomes, emotional impact, and a lower total cost of care—especially when compared with the increased cost of treating complications related to skin breakdown.

One study showed a decrease in total costs after the adoption of a successful prevention program that included Smith & Nephew products. This 125-bed nursing home demonstrated a 96% decrease in the occurrence of skin breakdown as discussed on page 17. The costs of the prevention program were compared with an estimated cost of treating ulcers and revealed an estimated cost savings of $234,355 for the 8-month duration of the study (Table 5).4

### Table 5. Cost-to-Treat Estimate

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline occurrence rate: <strong>13 breakdowns every 2 months</strong></td>
<td></td>
</tr>
<tr>
<td>Total projected number of breakdowns at the end of 8 months:</td>
<td></td>
</tr>
<tr>
<td>13 x 4 (2-month assessment periods) = 52</td>
<td></td>
</tr>
<tr>
<td>Conservative estimate of treating 1 breakdown .......... $5000</td>
<td></td>
</tr>
<tr>
<td>Estimate of treating total projected breakdowns at the end of 8 months:</td>
<td></td>
</tr>
<tr>
<td>52 breakdowns x $5000</td>
<td>$260,000</td>
</tr>
</tbody>
</table>

**Actual Cost of Prevention Program**

- Skin care products .................................................. $8415
- Pressure reduction surfaces
  (158 total residents x $35) ........................................ $5530
- Treatment nurse salary
  (50% of LPN* salary over study period) .................. $11,700

  **Total cost** .......... $25,645

**Cost Savings**

- Conservative estimate of cost to treat ............. $260,000
- Actual cost of prevention program ............... $25,645
- Total savings ................................................... $234,355

*Licensed practical nurse

Financial Results: Containing Costs/Improving Outcomes

“Findings support the implementation of comprehensive pressure ulcer prevention programs in extended-care facilities to decrease the dollar cost of care and the cost of human suffering with a pressure ulcer.”4
Reducing Skin Tears and Associated Costs
In another study, an estimated annual cost savings of $2,446 related to caregiver time and overall costs was realized by using protocols that included a non-detergent, no-rinse cleanser, rather than soap and water, for bathing bedridden residents in a long-term care facility. Within the first three months of using the no-rinse bath procedure, skin tear prevalence rates decreased from 23.5% to 3.5%. By the third month, no new skin tears occurred among the facility’s bed-bound residents.10

Reducing Length of Hospital Stays
The increased morbidity associated with the development of pressure ulcers translates into longer hospital stays. A study of 286 patients admitted to a tertiary care hospital explored the relationship between pressure ulcer development and the cost and length of hospital stay. All patients were older than 55 years, expected to be confined to a bed or chair or with a hip fracture, and expected to remain in the hospital at least 5 days. In this study, patients who developed pressure ulcers had hospital stays 2.4 times greater than those of patients who did not develop pressure ulcers. For patients in this study who developed pressure ulcers, hospital stays were 17.6 days longer (mean) and costs were $23,364 higher (mean).3

The outcome of this study demonstrates that pressure ulcers are associated with significant increases in hospital costs and length of stay (LOS). The study suggests that interventions to prevent pressure ulcers in patients at risk can reduce hospital costs and LOS.

Avoiding Penalties
The Centers for Medicare and Medicaid Services, health insurers, and the public, are demanding more accountability on the part of providers, such as hospitals, home health agencies, physicians, and long-term care facilities. An effective prevention program may help facilities during state inspections by improving patient outcomes and avoiding potential fines. Low pressure ulcer rates can also enhance a facility’s reputation in the community.

Litigation Raises Overall Healthcare Costs
The increased attention to pressure ulcers has led to an increasing number of lawsuits each year. Annually, more than 17,000 pressure ulcer–related lawsuits are filed in the US,7 with individual awards reaching millions of dollars. In isolated incidents, caregivers have been charged with and convicted of homicide after patients in their care died as a result of an infected pressure ulcer.18 These lawsuits are driving up the cost of liability insurance and increasing the cost of care nationwide.

A preventive care program like SKINEQUITY° may reduce the incidence of pressure ulcers and the risks and costs associated with litigation.
Increased Public Awareness/Improved Community Relationships

There is increased public awareness about the occurrence of pressure ulcers. The public has more access to government statistics, and lawsuits are ubiquitous. Implementing preventive skin care programs, like SKINEQUITY®, may help reduce the occurrence of pressure ulcers and can create positive relationships with communities, patients, and families.

Prevention—A Proactive Investment That Makes Sense

Consistent training, knowledge, and high quality, effective skin care products like SECURA®, lead to clinical, emotional, and financial results for patients, their families, and caregivers. While SKINEQUITY® cannot eliminate all pressure ulcers and threats of liability, it may lead to a reduction in the incidence of pressure ulcers and skin breakdown and, in turn, lead to reduced costs and better patient outcomes.

For further information about the SKINEQUITY® philosophy or for assistance in developing a preventive skin care protocol, visit our Web site at www.skinequity.com or call your Smith & Nephew Account Manager.
References


SKINEQUITY® Resources

SKINEQUITY® offers support materials to help your facility implement a preventive skin care program.

OPTIONS—A continuing education program for licensed nurses. Includes complimentary video, slides, and brochures that focus on assessment and early intervention related to skin breakdown and pressure ulcer development.

PST (Practice Success Through Knowledge, Protection, Results)—Designed for nursing assistants, this educational series is ideal for facilities with high staff turnover. Includes video, slides, poster and workbooks that explain and illustrate the steps of preventive skin care. Also includes a Skin Care Report Card.

Prevention Algorithms—These algorithms facilitate and standardize preventive care and treatment. They can be customized to fit any facility’s product formulary.

Technical Services—Information about products and ingredients. Call Customer Care at 1-800-876-1261.

Clinical Resources—Call Customer Care at 1-800-876-1261 or ask your Smith & Nephew Account Manager about Clinical Resource Support that can assist your facility with clinical and educational issues.

For further information about the SKINEQUITY® philosophy or for assistance in developing a preventive skin care protocol, visit our Web site at www.skinequity.com or call your Smith & Nephew Account Manager.

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SC-0208-0104