



WOUND CARE ASSOCIATION OF NSW Inc.

Patron Bryce Courtney AM

2008

Skin Care Guidelines

WCANSW CONTACT DETAILS:

Web: <http://www.ciap.health.nsw.gov.au/wcansw/>

General Email: wcansw@lists.health.nsw.gov.au

Mobile Phone: 0428 WCANSW (0428 922679)

Address: PO BOX 402 Connells Point Rd South Hurstville 2221

INDEX

Preamble	2
Sub -committee Members	3
Definitions	4
Introduction	5
Rationale	7
Limitations	7
Anatomy & Physiology of the Skin	8
Skin Types	12
Effects of Ageing	12
Maintenance of Skin Integrity	12
Skin at Risk of Tearing	17
Screening for Risk of Skin Tears	17
Preventing Skin Tears	18
Nutrition	19
Promoting Continence	22
Documentation and Communication	26
Quality Improvement Activities	26
Governance	27
Aged Care Accreditation Standard for Skin Care 2.11:	27
References	28

PREAMBLE

The skin is the largest organ in the human body. It plays a major role as a barrier to micro-organisms, homeostasis, nutrition and immune function. [1] For healthcare workers (HCW) maintaining skin integrity, by facilitating these functions, is the cornerstone of skin care.

Despite the frequent use of the term 'skin care,' there is no consensus about its true meaning and in the past 'skin care', in health care, was always inextricably linked with 'pressure ulcer prevention.' In fact the original WCANSW Inc. **Pressure Ulcer Prevention Guidelines 2000** contained a section on 'skin care' and included information on incontinence and malnutrition as factors associated with pressure ulcer development. However in line with current evidence that neither incontinence nor poor nutrition will *cause* pressure ulcers, a decision was made to create separate documents; the **Pressure Ulcer Prevention Guidelines Second Edition** which were launched in November 2007 and the **First Edition of the Skin Care Guidelines** November 2008.

By clarifying this information the WCANSW Inc. is confident that all terms previously viewed as synonymous with 'skin care' will be simplified thus making planning of care relevant and easier.

These Guidelines have been developed by the WCANSW Inc. Skin Care Subcommittee in line with current evidence from the literature. These Guidelines should be read in conjunction with the WCANSW Inc. 2007 Pressure Ulcer Prevention Guidelines Second Edition

Disclaimer:

Whilst every effort has been made to ensure this document has been developed using current and best available evidence, it is acknowledged that not all members of the WCANSW Inc. and beyond will agree with all the information in this document.

REVIEW: These Guidelines will be reviewed by the WCANSW Inc. Executive within five years, or as and when relevant, evidence-based information becomes available.

SUB-COMMITTEE MEMBERS

Catherine A. Sharp

Founding Member, Inaugural Life Member &
Immediate Past President, WCANSW Inc.
Founder & CEO, The Wound Centre®
Web: www.thewoundcentre.com
Email: info@thewoundcentre.com
Phone: 0408121331

Eileen Wilkins

Registered nurse/wound management
Port Macquarie Base Hospital
eileenwilkins@optusnet.com.au
Phone: 0434510607

Libby Nivison-Smith

CNS Wound Care
Port Macquarie Community Health
North Coast Area Health Service
Email: libby.nivisonsmith@ncahs.health.nsw.gov.au
Phone 02 65882882

Acknowledgements

The authors wish to thank Jenny Chan and Amanda Hawkins for their careful consideration and advice on the nutrition and continence sections of this document respectively. Jenny is a Consultant Dietitian-Nutritionist and Accredited Practising Dietitian. She holds a Bachelor of Science degree and Masters in Nutrition and Dietetics from the University of Sydney. Amanda is a Clinical Nurse Specialist in Continence at Coffs Harbour Community Health.

We wish to thank Eunice Gribben, Nurse Educator and Secretary/Co-founder of the Bowel Group for Kids¹ for the photographs of stomas.

Thank you to all the companies whose photos we have used to depict silicone adherent dressings, emollients, bath cloths etc.

The WCANSW Inc. does not endorse any company's products rather the concepts as a whole.

¹ A support group for children born with Hirschsprung's disease & ano-rectal malformations
www.bgk.org.au

Table 1 Definitions

Term	Definition
Activities of Daily Living (ADL)	Toileting, eating, mobilising, transferring
Atopic	A medical condition that is caused by a hereditary tendency to react to specific allergens, as in hay fever, some skin irritations, and asthma [2]
Bath Cloth	A disposable, complete pre-packaged bathing product. It replaces the traditional bed-bath e.g. water, bowls, towels.
Ecchymosis	Bruise: bleeding from broken blood vessels into surrounding tissue [2]
Healthcare Worker (HCW)	Refers to any HCW i.e. nurse, doctor, physiotherapist, dietician etc.
Incidence	The number of deaths or new cases of a condition, symptom, or injury that arises during a specific period of time, such as a year [3]
Limb Protector	Limb protectors are fabric pull-on 'tubes' designed to protect fragile skin from damage [e.g. skin tears] caused by friction. They are soft and allow ample air flow to reach the skin. They come in a range of sizes and colours and may be ready-cut or on a large roll to be cut for individual patients.
Patient / client/ resident	Any person to whom a health service provider owes a duty of care in respect of the provision of health services.[4]
Patient	This term will be used throughout this document and refers to all the terms - patient / client / resident.
Prevalence	A measure of the frequency of a disease or condition at a particular point in time, usually expressed as the number of cases per 100 people examined [3]
Silicone wound dressing product	A dressing product containing a soft silicon contact layer. Provides gentle adherence and atraumatic removal thus minimising pain. They are recommended for use on patients with frail and / or aged skin.
Skin Care	Maintenance of the hygienic state of the skin under optimal conditions of cleanliness and comfort. In various disease states, therapeutic and protective solutions and ointments are useful. The care of the skin is particularly important in exposure to sunlight. [5]
Skin tear	A "traumatic wound" that occurs principally on extremities of adults as a result of friction or shearing which separate the epidermis and dermis from underlying structures. [6]
Surfactant	An agent that reduces the surface tension of liquids so that the liquid spreads out, rather than collecting in droplets. [2]
Turgor	Rigidity of living cells [2]

INTRODUCTION

The main aim of this document is to provide an overview of the anatomy and physiology of the skin thus raising the profile of skin care in all adult age groups, bearing in mind that the elderly may be at greatest risk of poor skin health.

The WCANSW Inc. advises that the preservation of skin integrity is best achieved by prioritising management for skin care as follows:

Assessment

Each patient to be assessed for activities of daily living (ADL) including:

- Feeding
 - Mobility
 - Toileting
 - Hygiene, grooming and dressing.
-
- Skin assessment should be carried out on admission, during hygiene care and repositioning of patients
 - Ensure continence and nutrition / hydration are assessed

Interventions

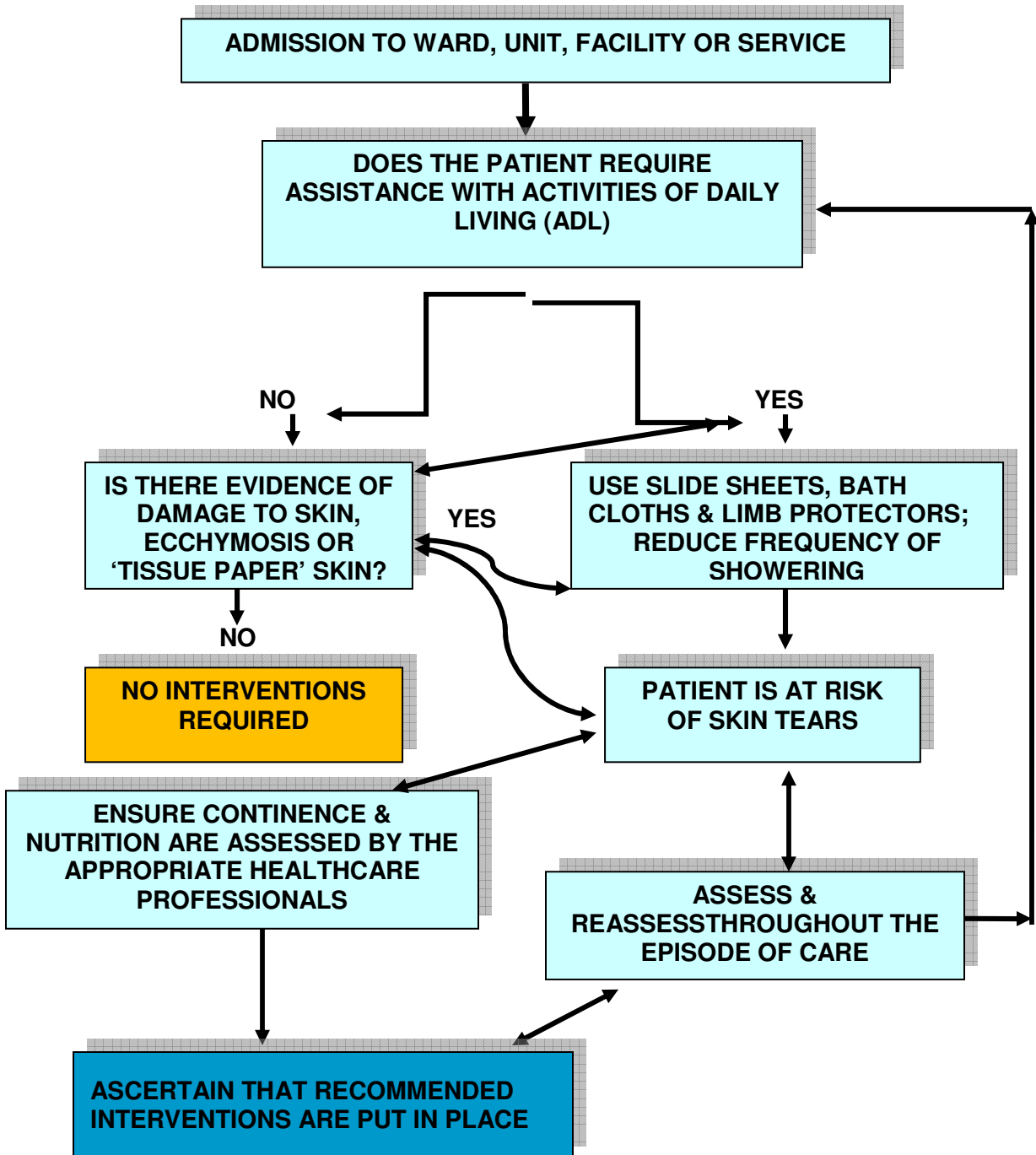
Ensure appropriate interventions are put in place based on the assessments and recommendations to maintain skin integrity including:

- Cleansing - hygiene to be individualised for each patient
- Hydrating – with effective moisturisation
- Replenishing – hydration and nutrition
- Protecting against injury - manual handling e.g. use of slide sheets and incontinence aids / equipment

Look carefully at the condition of the skin.

Skin is an excellent indicator of the health of the patient.

PRESERVING SKIN INTEGRITY



RATIONALE

In order to protect the skin efficiently HCW require a good understanding of what commonly causes skin damage, the anatomy and physiology of the skin, the different skin types and the effects of ageing. This document offers guidance for the maintenance of skin integrity in adults, proper selection of skin care products, recognising and protecting skin 'at risk' of tearing in particular in the aged.

Damaged skin i.e. *any* breach in skin integrity becomes a reservoir for pathogenic [disease causing] organisms, increasing the risk of infection.

Healthcare workers must have a good understanding of the anatomy and physiology of the skin as well as how best to care for the skin because healthy skin is less likely to get damaged.

A meticulous approach is required to keep skin clean, dry and nourished. Maintaining skin integrity is also vital to the health, comfort and general well being of all our patients. By focusing a trained eye toward the subtle signs and symptoms of the skin, we can better serve our patients. [1] For example urine and / or faeces on the skin commonly results in friction injury. This may present as redness and / or grazing of the surface of the skin [like baby nappy rash]. Friction injuries to the skin may be confused with a pressure ulcer. [7] Friction injuries can also occur when the skin is repeatedly dragged or moved across a coarse surface [e.g. a draw sheet]. Any disease e.g. Parkinson's disease, that causes involuntary movements can increase friction and result in skin tears.

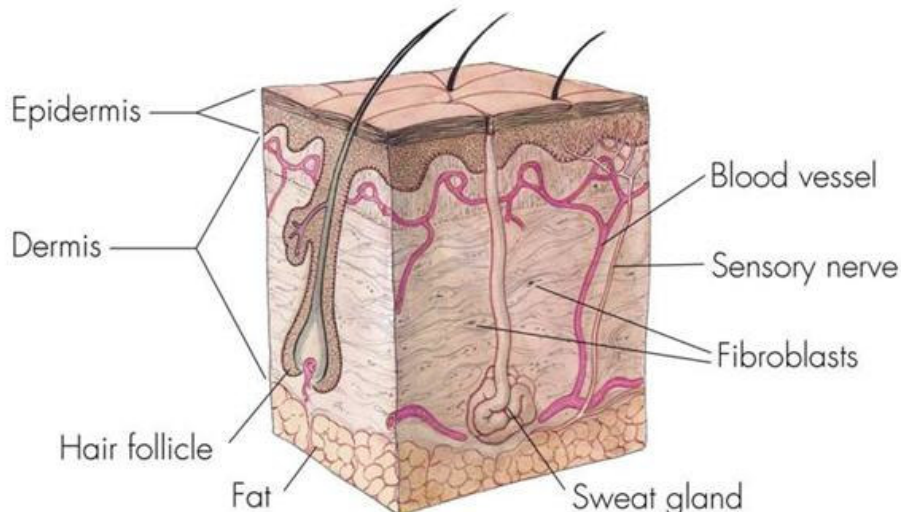
LIMITATIONS

The information contained in this document cannot be generalised to all patients. Babies and children are excluded as are patients with recognised dermatological conditions being treated by a Dermatologist for eczema, psoriasis, bacterial infections, tinea etc. Similarly, the principles and practice of skin care for patients undergoing radiation therapy is not covered within these Guidelines. People with very dark skin may need to be examined with particular care because friction injury / redness may be difficult to detect. Wound management of skin tears is outside the scope of these Guidelines.

ANATOMY & PHYSIOLOGY OF THE SKIN

The skin is the largest organ of the body consisting of epithelial and connective tissue and accessory organs; glands, hair and nails. It provides a layer of protection from pathogens, physical abrasions and radiation from the sun. Skin regulates the internal environment maintaining body temperature via sweating and shivering, excreting salts and small amounts of waste (ammonia and urea) found in sweat. It is an organ of sensation via nerve receptors to detect, pain, cold and heat. It metabolises Vitamin D, prevents fluid loss and provides an aesthetic look with is important for emotional and physical wellbeing. [8]

Figure 1 - A section of the skin



Picture Courtesy of the National Library of Medicine

***Skin can be divided into three sections;
epidermis, dermis and hypodermis.***

Skin provides a barrier against micro- organisms

EPIDERMIS [8]

The epidermis is a thin avascular layer that regenerates every 4 – 6 weeks. It is composed of four principal types of cells:

1. Keratinocytes

Keratinocytes produce the protein keratin that helps harden, waterproof and protect the skin.

2. Melanocytes

Melanocytes produce the pigment melanin which contributes to skin colour.

3. Langerhans

Langerhans cells arise from bone marrow and migrate to the epidermis interacting with white blood cells in immune responses.

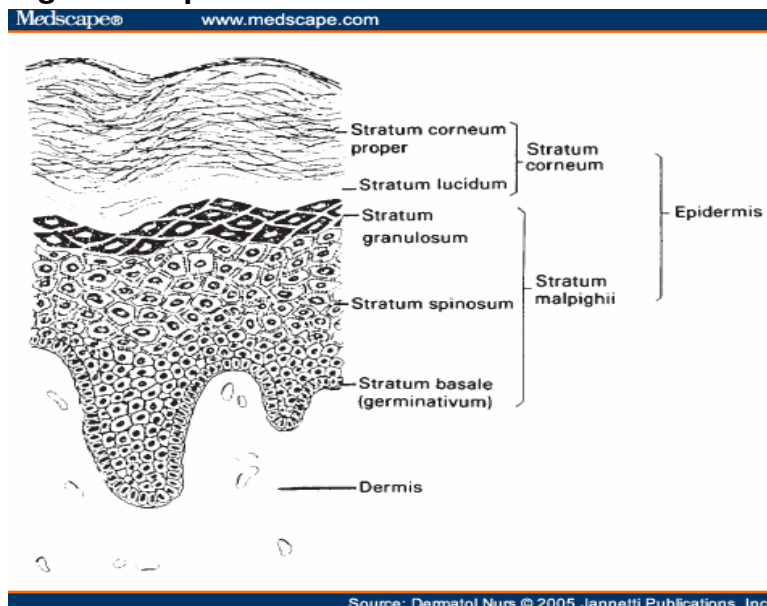
4. Merkel

The fourth is the Merkel cell which occurs deep in the epidermis. Merkel cells make contact with the endings of the sensory neurons and are thought to function in the sensation of touch.

In addition there are five distinct layers of cells that form the epidermis from the deepest to the most superficial: (Figure 2)

1. **Stratum basale** – these contain stem cells that produce keratinocytes, which push up towards the surface.
2. **Stratum spinosum** – these cells are covered with prickly spines that fit closely together.
3. **Stratum granulosum** – consist of three to five rows of flattened cells that develop darkly staining granules of substance a precursor to keratin.
4. **Stratum lucidum** – normally only found on the palms and soles.
5. **Stratum corneum** – consists of 25-30 rows of flat dead cells completely filled with keratin that are continually shed.

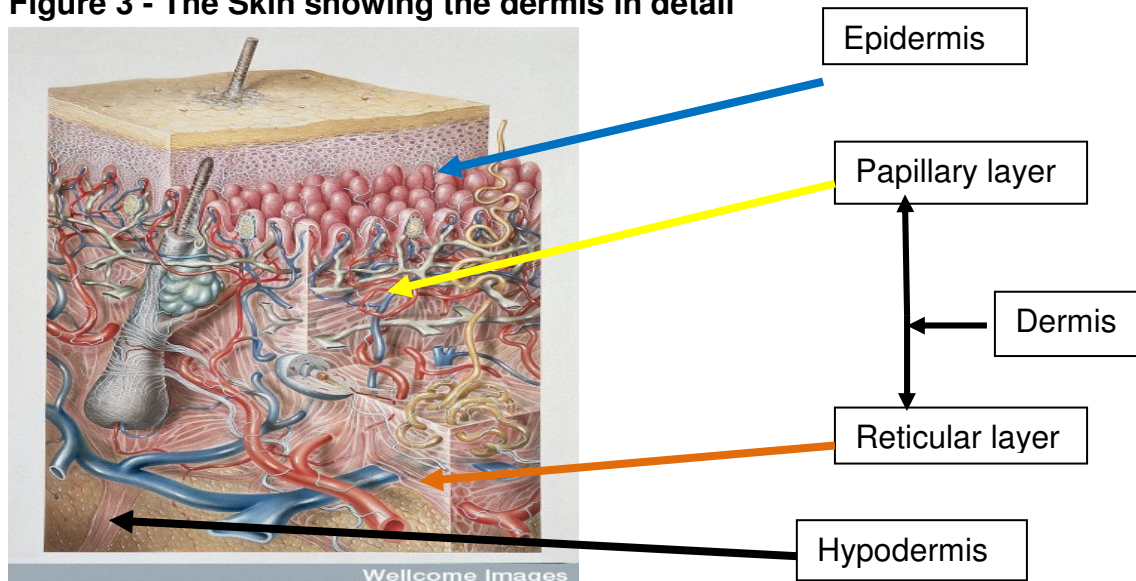
Figure 2 - Epidermis



DERMIS [8]

The second layer of the skin, the dermis, consists of various connective tissues. As connective tissue, it contains fibroblasts and macrophages within a gelatinous matrix containing collagen, elastic, and reticular fibres. The structure provides strength, extensibility (the ability to be stretched), and elasticity (the ability to return to its original form).

Figure 3 - The Skin showing the dermis in detail



Picture Courtesy of Wellcome Images

The dermis is very thick on the palms and soles and very thin on the eyelids, penis and scrotum. Blood vessels, nerves, glands and hair follicles are embedded in the dermis.

The dermis consists of two layers:

- 1) **The papillary layer** which contains loops of capillaries and nerve endings and
- 2) **The reticular layer** which **consists of dense** irregular connective tissue containing interlacing bundles of collagen fibres. Spaces between the fibres are occupied by small quantities of adipose tissue, hair follicles, nerves, oil glands and the ducts of sweat glands. Varying thicknesses contribute to the differences in the thickness of skin.[8]

Hypodermis [8]

The hypodermis (subcutaneous layer or superficial fascia) lies between the dermis and underlying tissues and organs. It consists of mostly adipose tissue and is the storage site of most body fat. It serves to fasten the skin to the underlying surface, provides thermal insulation, and absorbs shocks from impacts to the skin.

ACCESSORY ORGANS OF THE SKIN [8]

Hairs

These are elongated filaments of keratinized epithelial cells that arise and emerge from the skin; the hair shaft, the root that penetrates the epidermis and the bulb.

The matrix located within the bulb produces keratin and absorbs melanin. The colour of the hair is determined by the pigments absorbed from melanocytes.

Nails are keratinized epithelial cells.

Sweat glands secrete sweat which consists of water, various salts and other substances.

Sebaceous glands secrete sebum, which inhibits bacterial growth and helps prevent drying of hair and skin.

“Accessory Organs of the skin” from CliffsNotes.com:

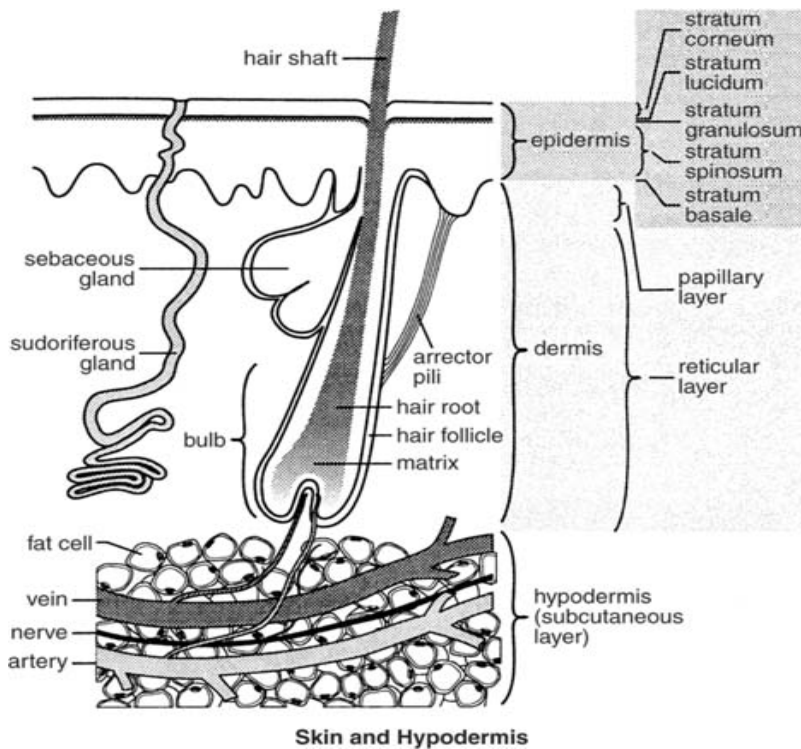


Figure 4 - A section of skin with various accessory organs

SKIN TYPES

The four traditional labels used to depict skin type: dry or oily, sensitive or resistant, pigmented or non-pigmented (colour can vary depending on the amount of pigment), and wrinkled or unwrinkled must be considered for patients to accurately self-assess their skin type or for HCW to be able to make appropriate skin care recommendations to their patients. For example, a person who has dry, sensitive skin would require markedly different skin care products or treatments than an individual who has oily skin. [9]

Referral to a dermatologist / dermatology nurse consultant should be made to assist in the assessment of skin type to ensure the correct moisturisers are selected and to ensure that the moisturiser itself is not contributing to any of the existing skin problems.

EFFECTS OF AGEING

It is important to consider the skin of the geriatric population. [10] The natural decline of the functional ability of the skin manifests clinically with physical findings of decreased turgor, thinning, ecchymosis, an increased number of discrete lesions overall and dryness. [11]

When considering the geriatric patient's skin at a cellular level these findings are not surprising. Ageing reduces activity in the sebaceous and sweat glands and diminished hydration together with a reduction in the actual cellular numbers and layering provide a template for external factors to induce further functional decline. [12]

In the presence of underlying skin conditions skin and soft tissue infections (SSTIs) are a common cause of morbidity in older patients. Because of changes in skin consistency, immune-senescence and co-morbid conditions, geriatric persons are at high risk for SSTIs. [13] Some of the changes occur naturally, some are due to associated medical (intrinsic) conditions and others are caused by the environment example for sun damage or radiotherapy (extrinsic).

MAINTENANCE OF SKIN INTEGRITY [9]

Maintenance encompasses four main elements of fundamental skin care:

- 1. Cleansing**
- 2. Hydrating**
 - 2.1 Effective moisturisation (with emollients and humectants)
- 3. Replenishing**
 - 3.1 With lipids, ceramides and fatty acids
- 4. Protecting**
 - 4.1 UV protection and increased humidity

1. Cleansing the skin

Skin hygiene, a fundamental nursing care activity, has usually been achieved by bed-bathing or showering patients [every day]. Daily showering however is not necessary for all patients and can alter the pH of the skin causing it to dry out and itch. Skin can be cleansed with bath cloths and this practice is entirely suitable for patients in critical care units, day surgery, the community and residential aged care facilities. Not only is it a quick and easy way to cleanse the skin but it will help to maintain the normal pH of the skin.



Figure 5 Bath Cloths

The pH of the skin is between 4 and 6.5

This provides an acid mantle, a fine film, on the surface of the skin

The acid pH protects the skin from bacteria and fungi

Skin cleansers should maintain the natural pH between 4 and 6.5

Patients may require assistance from nursing staff or carers with ADL. It is during this assistance with ADL, the perfect time to assess the patient's skin integrity that much information can be gained by simply:

- Checking the skin colour
- Moisture level,
- Temperature
- Texture of the skin.

It is also during assistance with ADL that the skin of the aged may be subject to accidental tears. For elderly patients in high care dementia units, showering has long been known to be the ADL most likely to provoke patient to staff physical aggression. [14] [15] In addition the harsh surfactants in cleansers can cause damage to skin proteins and lipids, leading to after-wash tightness, barrier damage, irritation, dry skin and even itch.[16]

The frequency of skin cleansing should be individualised according to the need and patients preference. For patients with dementia, for example, and from a person-centred perspective it is more important to make having a shower a pleasant experience rather than a fast and time-efficient process. [17] If patients are resistive or scared it is kinder to use a bath cloth regime rather than making them shower.

Dry Skin

Levels of stratum corneum (SC) lipids, sebum, natural moisturizing factor, and aquaporin are considered to be the most important factors that regulate the degree of, or contribute to, dry skin. Of these factors, the role of the SC, especially its capacity to maintain skin hydration, is the most significant factor in the mechanism of xerosis, excessively dry skin. In turn, the SC is composed of ceramides, types of lipids, or fats that help keep moisture in the skin, fatty acids, and cholesterol, among other less active constituents. When present in the proper amount and balance, these three groups of primary constituents of the SC contribute to protecting the skin and keeping it watertight. [9]

Dry skin is often associated with itching and is more common in patients with inflammatory skin diseases, normal ageing, and systemic diseases such as chronic renal failure and HIV [18]

'Itch, the hallmark of atopic dermatitis, has a significant impact on quality of life for patients with this disease.' [18]

High pH (pH 10) solutions can increase SC swelling and alter lipid rigidity so cleansers with neutral or acidic pH, close to SC-normal pH 5.5, may be potentially less damaging to the skin. [16]

THE TRADITIONAL BEDBATH [19]

The traditional bed-bath has been in existence for over 150 years - with little change. Bed-bathing may result in:

- Cross-infection (contaminated basin and washers)
- Discomfort for the patient.
- Manual handling risks for nursing staff (carrying bowls of water, slipping).
- Lost time
- Wasting valuable water
- Costly soaps, washers, towels, laundering of washers and towels and skin moisturiser following the bed-bath.

Other benefits of bath cloths

Following surgery patients may wish to have a bed-bath with warm bath cloths, preferring this to a shower. Patients with dry, vulnerable skin may benefit from bath cloths and consideration should be given to less frequent showering. Patients with emphysema or other breathing difficulties may panic under a shower because they simply cannot breathe; use bath cloths as an alternative. Bath cloths are ideal for use in palliative care; patients in their dying days, whether at home or in a healthcare facility, may prefer the bath cloth to a shower.

2. Hydrating the Skin

By only showering patients two or three times a week instead of every day, health workers have more time to assist with ADL by:

- Providing extra drinks (preventing dehydration)
- Feeding patients allowing time to chew and swallow (preventing malnutrition)
- Mobilising patients (preventing muscle-wasting)
- Toileting patients regularly, ensuring comfort, dignity and well-being

2.1 Effective moisturisation (with emollients and humectants)

Emollients and moisturizing creams are used to break the dry skin cycle and to maintain the smoothness of the skin. The term 'moisturiser' is often used synonymously with emollient, but moisturisers often contain humectants, a substance that absorbs or helps retain moisture in order to hydrate the SC. [20] Although generally efficacious /effective moisturisers can cause a number of unwanted side-effects, including occlusive folliculitis, irritation, allergic contact dermatitis and contact urticaria, a skin rash, usually occurring as an allergic reaction. [21]

3. Replenishing the skin

Moisturising agents help to retain moisture, minimize damaging interactions between surfactants and skin proteins and lipids, and thereby, reduce skin damage. [16] Improper skin care can worsen any dermatological condition or impede the treatment outcome. [22]

Proper moisturising is essential

Emollients have a softening or soothing effect and are helpful when applied to dry itchy skin

Figure 6 Emollients



4. Protecting

In addition to reducing episodes of manual handling e.g. fewer showers and using bath cloths, protecting frail skin can be accomplished by wearing long sleeves and trousers or limb protectors.

Figure 7 Limb Protector



*Available in 10 metre rolls



or pre-cut

Cut limb protector slightly longer than length required

Mark with patients name using a permanent laundry marker

Arm protectors must cover the hand to the knuckles ---- cut a small hole for the thumb

4.1 UV protection and increased humidity

Exposure to ultraviolet (UV) radiation increases skin pigmentation and usually results in an even darkening of the skin. [23] However it is now recognized that both ultraviolet (UV)-A and UVB wavelengths participate in the generation of photo-damaged human skin during sun exposure. During usual daily activities, an appropriate protection against solar UV exposure should prevent clinical, cellular, and molecular changes potentially leading to photo-aging. [24]

SKIN AT RISK OF TEARING

It is easy to identify skin at risk of tearing. It is soft and wrinkled and often has a 'bruised' or 'red-blue-black' mottled appearance; ecchymosis. This is often most visible on the dorsum of the hands, the forearms and the lower legs.



Figure 8 Skin at risk of tearing

SCREENING PATIENTS FOR RISK OF SKIN TEARS

Residents at risk of skin tears include those who are dependent, or independent ambulatory residents, those who are sight-impaired and those on long term steroids. [25]



Figure 9 Ecchymosis with skin tear

The bruised (ecchymosis) appearance is caused by bleeding from capillaries in the papillary layer of the dermis that leaches into the epidermis.

These bruised areas are easily torn even with a light touch or friction when pulling an article of clothing on for example.

PREVENTING SKIN TEARS [25]

- Reduce episodes of manual handling e.g. reduce the number of showers from daily to twice weekly and use Bath Cloths on other days
- Use slide sheets or lifters for repositioning, lifting and transferring
- Careful handling of the elderly patient especially with frail skin
- Pad bed rails, wheelchair arm and leg supports and any other equipment
- Use pillows and blankets to protect arms and legs
- Keep the bed free from crumbs and particles that may irritate the skin
- Sheepskin boots and elbow pads can reduce friction on heels and elbows
- Wear long sleeves and trousers or limb protectors
- Use self adhesive bandages rather than adhesive tapes and dressings
- Apply moisturisers to skin
- Ensure a well lit environment and remove excess furniture
- Assist those at risk of falling
- Health care workers should have short trimmed fingernails and minimal jewellery ²
- Carers should avoid wearing rings that may snag the skin, and should also keep fingernails short and smooth
- Ensure patient's fingernails and toenails are trimmed regularly and have no jagged edges



Figure 10 Silicone adherent dressings

***Use only silicone adherent wound dressings for frail
'tissue paper' skin e.g. the aged and patients on steroids***

² Australian Government Department of Health and Aging 2004 Infection Control Guidelines

NUTRITION

This section is a mere overview of nutrition. The WCANSW Inc. recommends that all treating doctors are notified of concerns about nutritional status. He /she may refer to a particular dietician and /or many facilities have their own dieticians.

On admission to any healthcare facility all nursing assessments should include a section on nutrition. A simple to use screening tool³ that indicates malnutrition risk necessitates referral to a dietitian. The WCANSW Inc. suggests each healthcare facility consults with a dietitian to determine the most suitable tool.

A person who does not get enough nutrients like protein, vitamins, minerals and fluids is at higher risk for developing wounds than someone who gets enough of the right kinds of foods. Sufficient calories plus all other essential nutrients are required for preventing wounds.

- Carbohydrates and fats (provide energy) are needed to prevent protein breakdown
- Protein is needed for tissue maintenance and repair. It is involved in collagen synthesis, collagen remodelling, angiogenesis & fibroblast proliferation
- Vitamins and minerals are all needed for collagen synthesis, fibroblast production, wound strength etc.

Patients need proper nutrition and hydration to prevent skin tears and to enable existing wounds to heal

Factors associated with non-healing wounds are:

- Unintentional weight loss
- Diabetes
- Dehydration
- Medical conditions - restricting food intake because of special diets.
- Poor food intake from reduced appetite, ill fitting dentition - this will restrict the range of food eaten by the elderly because of their inability to chew
- Taste changes and reduced sensation of smell
- Swallowing difficulties due to stroke, Parkinson's disease
- Mobility and physical activity – people with arthritis or who have had a stroke may have difficulty exercising, shopping, preparing and cooking.
- Poverty and economic uncertainty – patients may buy cheaper, less nutritious foods
- Depression and loneliness

³ A validated nutrition assessment tool.

ESSENTIAL NUTRIENTS

Protein is required for collagen development.

Protein depletion can affect the rate and quality of wound healing, [26] Protein is required as part of the inflammatory process, in the immune response and in the development of granulation tissue. Protein inadequacy has also been shown to affect remodelling of the wound. In extreme cases of hypo-albuminaemia (i.e. low levels of the serum protein albumin) from long periods of insufficient protein intake, oedema may develop.

Good sources of protein are meat, seafood, poultry, eggs, legumes, dairy products, soy products, nuts and seeds.

Individuals who do not consume sufficient calories lose weight in the form of lean body mass. Adequate calories should be provided so that protein and lean body mass are not used for energy.

Energy is provided in the form of carbohydrates and fats.

Carbohydrates are found in breads, cereals, grains, fruits, some vegetables.

Food sources of fats are meat, oils, margarines, full fat dairy products.

Vitamins

Vitamin C has an important role in collagen synthesis, helping to provide extra strength and stability. There are increased requirements for Vitamin C during injury, stress and sepsis. [26]

Vitamin C is found in citrus fruits and vegetables, some fruit juices, tomatoes, capsicum, broccoli,

Vitamin A is involved in cellular differentiation and proliferation, collagen synthesis, epithelial development and maintenance.

Food sources are milk, eggs, liver, cheese and fish. Betacarotene is changed into vitamin A in the body; found in carrots, broccoli and leafy green vegetables.

Minerals

- **Zinc** is required for protein synthesis and collagen synthesis. [26] Food sources of zinc are lean red meat, poultry, beans, lentils, nuts, seeds, wholegrain cereals, seafood and dairy products.
- **Iron** is a trace element which is needed by the body for the formation of blood. Food sources of iron are red meat, liver, kidney, dark green leafy vegetables, dried fruits, nuts, wholegrain cereals. [27]

Supplementation

The ideal way to meet requirements of the above nutrients is by consuming a healthy diet which includes foods from all the food groups. [28] If the patient is not consuming adequate nutrients, supplementation may be required. A full nutritional assessment will identify nutrients lacking.

Oral hydration

We all need around two litres of fluid a day to keep our bodies properly hydrated. Water is the medium in which most of body processes take place, and makes up about two thirds of body weight. We lose it via breath, sweat and urine. [29]

Many patients suffer from dehydration and starvation simply because they cannot hold a glass or knife and fork and / or cannot reach their food and fluids

Dehydration, even mild dehydration, may cause constipation. In the aged it can cause poor skin elasticity, rendering it more fragile and prone to skin breakdown. Reasons some residents are prone to dehydration are: limiting fluid intake to reduce incontinence, diminished sense of thirst, swallowing disorders, vomiting and diarrhoea. Examples of fluids are water, milk, juice, soups, yoghurts, ice creams, tea and coffee.

Please assist those patients who cannot help themselves to fluids and cannot feed themselves

PROMOTING CONTINENCE

This section provides a mere overview of continence and preventing skin breakdown for incontinent patients. The WCANSW Inc. recommends that all treating doctors are notified of concerns about their patient's continence status. Referral to a continence advisor / nurse consultant should be made to ascertain the cause and plan the care.

There are several different types of incontinence e.g. stress, urge, functional or overflow. They may result from a variety of factors e.g. immobility, chronic degenerative disease, impaired cognition, medications, poor fluid intake, faecal impaction and environmental barriers, so it is vital that the correct assessment and management is provided.

Incontinence is known to increase the risk of skin breakdown (e.g. excoriation / nappy rash) but will not cause a pressure ulcer. [7] The risk of skin breakdown is increased when the skin is exposed to excessive or sustained contact with urine and / or faeces.

Assessment

- Consider previous investigations
- Has there been an alteration in bowel/bladder habits
- Is the patient already using aids such as pads
- How effective is the current practice
- What is the patient's mental status
- What sort of environment are they living in
- How mobile is the patient
- Does their dexterity allow them to manage their continence aids



Figure 11 - Excoriated skin of an incontinent patient

Intervention

- Liaise with continence nurse / stomal therapist
- Plan assessment date
- Set realistic goals
- Provide education on bladder function & bladder control
- Maintain fluid balance chart and evaluate fluid status
- Toileting regimes as recommended
- Use of aids such as pads and their effectiveness.
- Monitor bowel actions
- Maintain dignity

When providing skin care to incontinent patients:

- Be mindful of the force applied when washing the skin and avoid massaging areas, which could be easily damaged
- Use bath cloths rather than bowls of water
- Ensure relevant creams / lotions are used to prevent further damage to skin integrity
- Increase fluids when skin is dry
- Don't use talcum powder because it soaks up the natural oils in the skin and dries it out
- Skin should be cleansed at time of soiling and at routine intervals
- Use products that are the right pH
- Mild cleansers minimise dryness
- Pat dry gently, rather than rub, using a soft towel, to prevent skin tears
- Where possible communicate with the patient, so that you can work together to maintain good skin integrity. They can tell you if they have any pain, numbness, itchiness, and tingling, hot or cold feelings
- Patients that are willing and able should be given education and encouraged to inspect their own skin
- Incorporate mobility and toileting regimes into plan of care

Stomas and peristomal skin

Drainage from stomas [and wounds] may also cause maceration or softening of the peristomal (surrounding) skin. This makes the skin susceptible to friction, tearing and irritation. A breach in skin integrity may result in infection.

Assessment

The appliance adheres to the peristomal skin so it is very important to look after the skin as well as the stoma.

- Check the skin around the stoma.
- If there is evidence of maceration establish the cause
- Has the appliance leaked?
- Has the skin been stripped when moving the appliance?
- Has a harsh soap been used?

Has the patient developed an allergy to a product or appliance?

Drainage from dehisced surgical incision



Figure 12 - Excoriated peri-stoma skin

Intervention

- Check the appliance regularly.
- Look for any sign that the appliance is lifting away from the skin
- If so the appliance may need to be changed
- Empty the appliance bag when it is one third full.
- Never allow the appliance bag to fill completely,
- Always remove the appliance gently.
- Starting at the top push the skin gently away from the appliance.
- Use an adhesive remover wipe to dissolve the glue between the skin and the appliance backing.
- After cleaning the peristomal skin apply a barrier film.
- Use only pH friendly soap to preserve the natural acid mantle of the skin.



Figure 13 - Applying a product to protect peri-stoma skin

Choose skin care products designed to protect intact, damaged or 'at-risk' skin from urine, faeces, other body fluids, adhesive trauma and friction.



Barrier wipes are used on the peristomal skin to prevent damage and to act like a second skin.

Figure 14 - A variety of topical applications

A stomal therapist should be consulted for all advice on stoma care in particular to prevent maceration of the skin as well as treatment of macerated skin.

Refer to multidisciplinary team

DOCUMENTATION AND COMMUNICATION

Effective documentation and communication is essential for continuity of care between the clinicians, caregivers and patients in all healthcare facilities. After thorough assessment findings must be documented on the Care plan, Progress Notes or Clinical Pathway⁴ and passed on verbally in handovers. This will ensure the patient receives the best care and the best outcomes are achieved.

Poor documentation may have legal ramifications [4]

***Always document interventions, care planning,
management and outcomes***

Notify adverse events – skin tears as a result of manual handling, falls, equipment etc in patient's notes and/or reported via Incident Information Management Systems (IIMS) within NSW Health facilities.

Ongoing documentation should include:

- Results of risk screening for skin tears
 - Details of interventions (limb protectors, bath cloth)
 - Category of skin tear
 - Description of excoriated skin of an incontinent patient
 - Any rash or reaction to emollient, soap etc.
 - Whether skin is well-nourished and supple or dry and dehydrated
 - Size / area (width, length, depth, location) of skin tear, excoriation or rash
-
- Outline strategies for management of the skin tear, excoriated skin or rash
 - Identify if a referral to a general/plastic surgeon or dermatologist is required
 - Identify when the skin tear, excoriation, rash is to be reviewed

QUALITY IMPROVEMENT ACTIVITIES

As part of risk management systems must be in place for the ongoing monitoring and reporting of injuries to staff; the reduction in manual handling⁵ should see a associated reduction in back injuries sustained by nurses.

The incidence and prevalence of skin tears, skin rashes, itching (which may be related to the moisturiser being used) should be carried out at intervals.

Data on the incidence of skin tears are to be analysed to determine the effectiveness of prevention strategies i.e. limb protectors, reducing manual handling and / or education in manual handling procedures. The prevalence and

⁴ Document as per facilities protocol

⁵ Replacing showers with bath cloths

incidence rates of skin tears should decrease following the implementation of appropriate prevention strategies.

Healthcare workers are in a privileged position when caring for patients. As we deal with many people from different cultural backgrounds, there are rituals that we may not understand but must always respect for example some cultures may not want to shower during their menstrual cycle. [30]

GOVERNANCE

Health Care facilities are responsible for:

- Ensuring an effective skin care programme is in place
- Ensuring an effective skin tear prevention programme is in place
- Ensuring appropriate resources are available for preventing skin tears
- Using a recommended quality improvement methodology to monitor the implementation and compliance with skin tear prevention strategies
- Implementing local policies and practices to support staff. This includes staff training on skin care and skin tear prevention and encouraging an environment where this is part of routine care.

Aged Care Accreditation Standard for Skin Care 2.11:

The aged care industry in Australia has been faced with many challenges over the last 10 years, including the introduction of the Aged Care Act 1997 and the Aged Care Accreditation Standards. The purpose of the introduction of the accreditation process was to ensure that residential aged care services were complying with the Accreditation Standards and making a commitment to continuously improve their standard of care and services. [31]

Enlist the help of a specialist in Wound Care for the Aged to ensure compliance with the following Aged Care Accreditation Standard for Skin Care 2.11:

Expected Outcome

Residents' skin integrity is consistent with their general health.

Policies and practices provide:

- for the development of a resident care plan that indicates individual assessment, documentation, treatment and regular evaluation;
- that residents are assisted to maintain their skin, hair and nails in a healthy condition;
- that preventive measures are evident and are consistent with contemporary practice;
- for the diagnosis, appropriate treatment and review of any breakdown of skin integrity; and
- for incident reporting mechanisms that are present, functional and acted upon.

REFERENCES

- [1] Thomas VD & Thomas CR Preface *Dermatologic Clinics* 2008; 26 (1)
- [2] Encarta Dictionary www.uk.encarta.msn.com/dictionary
- [3] PubMed www.pubmedcentral.nih.gov/articlerender.fcgi
- [4] NSW Department of Health, Patient Matters, Part 1, Section 9
- [5] Biology on line. skin care http://www.biology-online.org/dictionary/Skin_care
- [6] Payne, R. and Martin, M. :Defining and Classifying Skin Tears: Need for common language” *Ostomy / Wound Management*. 1993; 39(5):16-20,22-24,
- [7] Sharp CA and McLaws M-L. Estimating the risk of pressure ulcer development: is it truly evidence-based? *International Wound Journal* 2006; 3: 344 – 353
- [8] The Skin and Its Functions. CliffNotes.com
- [9] Baumann, L. Understanding and Treating Various Skin Types: The Baumann Skin Type Indicator *Dermatologic Clinics* 2008; 26 (3)
- [10] Dewberry C., Norman RA., Bock M. Eczematous diseases of the geriatric population *Dermatologic Clinics* 2004; 22 (1)
- [11] Norman R.. Causes and management of xerosis and pruritus in the elderly. *Annals of Long-Term Care* 2001;9:35-40.
- [12] Marks R. Skin disease in old age, 2nd edition London: Martin Dunitz; 1999
- [13] Anderson DJ & Kaye KS Skin and Soft Tissue Infections in Older Adults *Clinics in Geriatric Medicine* 2007 23(3)
- [14] Farrell Miller M Physical aggressive resident behaviour during hygienic care. *J Gerontol Nurs*. 1997;;23(5):24-39.
- [15] Sharp C & Farmer J. Skin tears in the aged; time saving, cost saving, quality wound care. Report provided for Mölnlycke Health Care 2007
- [16] Ananthapadmanabhan KP, Moore DJ, Subramanyan K, Misra M, Meyer F. Cleansing without compromise: the impact of cleansers on the skin barrier and the technology of mild cleansing. *Dermatol Ther* 2004;17 (1):16-25.

- [17] Sloane PD, Hoeffler B, Mitchell MC, et al: Effects of person-centered showering and the towel bath on bathing associated aggression, agitation, and discomfort in nursing home residents with dementia: a randomized, controlled trial. *J Am Geriatric Soc* 2004; 52:1795-1804.;
- [18] Yosipovitch G. Dry skin and impairment of barrier function associated with itch - new insights. *Int J Cosmet Sci.* 2004;;26(1):1-7 .
- [19] Human Technologies <http://www.humantechnologies.net.au/2hospital>
- [20] Lodén M Role of topical emollients and moisturisers in the treatment of dry skin barrier disorders. *Am J Clin Dermatol.* 2003;4(11):771-88.
- [21] Lynde CW. Moisturisers: what they are and how they work. *Skin Therapy Lett* 2001;6(13):3-5.
- [22] Draelos ZD. Concepts in skin care maintenance. *Cutis.* 2005;76(6 Suppl):19-25.
- [23] Moyal D. Prevention of ultraviolet-induced skin pigmentation. *Photodermatol Photoimmunol Photomed.* 2004 Oct;20(5):243-7.
- [24] Seité S, Fourtanier AM. The benefit of daily photoprotection. *J Am Acad Dermatol.* 2008; 58(5 Suppl 2):S160-6.
- [25] Baranoski S. Skin tears: guard against this enemy of frail skin. *Nursing Management.* 2001; 32(8):25-32.
- [26] Gray D, Cooper P. Nutrition and Wound healing: what is the link? *Journal of Wound Care* 2001; 10(3):86-89
- [27] VeganSociety <http://www.vegansociety.com/html/food/nutrition/iron.php>
- [28] Perkins L. Nutritional Balance in Wound Healing. *Clinical Nutrition Update* 2000; 5(1):8-10
- [29] Mascha M. Fine Waters A Connoisseur's Guide to the World's Most Distinctive Bottled Waters <http://www.finewaters.com/store/book>
- [30] Moawed S. Indigenous practices of Saudi girls in Riyadh during their menstrual period. *East Mediterr Health J.* 2001;7(1-2):197-203.
- [31] Aged Care Standards and Accreditation Agency, 2000.
www.health.gov.au/internet/main/publishing.nsf/Content/health-media-rel-yr2001-bb-bb01053.htm