ROLLING inspiration
The lifestyle publication for people living with mobility impairments

ALL YOU NEED TO KNOW ABOUT WOUND CARE

WHASA

WOUND HEALING ASSOCIATION OF SOUTHERN AFRICA

MEDIHOSP

Suppliers of Hospital and Homecare Equipment

Specialised Pressure
Relieving Mattresses
Specifically designed for the prevention of
skin lesions

Battery Operated Seat Cushion

Specialists and proud suppliers of:
Local and Imported Hospital Furniture, Moving and Handling Equipment, Hoist and Stand Aids, Patient Aids

Romedic - Moving & Handling

Electric Hoist

Electric Bed

Battery Operated Bathlifter

Tel: +27 11 888 5450 **Fax: 086 612 6599**
E-mail: medihosp@wbs.co.za

Dear Care Giver,

The Wound Healing Association of Southern Africa (WHASA) is a multidisciplinary organization incorporating a team approach towards wound healing.

Our vision is to be a primary, national, scientific and practical resource, available to all south african health care professionals who share the mission of advancing and serving the field of wound healing and the care of people with wounds. Our mission is to advance the science and the practice of wound healing and the care of people suffering from wounds.

Wound Care is no longer just about putting on a plaster where it hurts. It is a science focussing on the cause and treatment of wounds taking in account that all risk factors or contributing factors to a non-healing wound is taken into consideration. We therefore encourage care givers to use this booklet as a reference guide with regards to entry level wound care and pressure ulcer prevention.

The aim of this booklet is to provide the care giver with the necessary knowledge to do basic wound care and to enable the care giver to recognize when to refer a patient such as the ones visualized on page 6 to a qualified wound care practitioner. WHASA supports evidence based wound care. Please note that this booklet should be seen as a guideline for basic wound care. It focuses especially on patients at home and in a low budget setting and incorporates the reality of the difficulties in home care.

WHASA would like to thank Rolling Inspiration for this initiative and also the Executive Committee of the Wound Healing Association of Southern Africa with specific thanks to the main contributors:

- Prof Magda Mulder – WHASA educational committee and booklet content manager.
- Mr. Thabo Mokhobo – WHASA educational committee and booklet content.
- Sr. Rene Lessing – WHASA publications committee, trade liaison and booklet layout.

May this booklet be a source of information, providing the bases for better wound care knowledge.

Remember when in doubt rather refer the patient to a professional wound care practitioner for advice or advanced care.

Yours sincerely,

Liezl Naude
President of the Wound Healing Association
of Southern Africa.
www.whasa.org

WHASA
Wound Healing Association of Southern Africa

WHAT IS A WOUND?

A wound is any break in the skin. The extent and type of damage influence the rate of wound repair (Kluwer, 2008; 10).

TYPES OF WOUNDS

1. **Acute Wounds:** An acute wound has a sudden onset and is of a short duration. This kind of wound heals in an orderly and timely fashion e.g. an abrasion, scald injury, etc.

Acute wound

2. **Chronic Wounds:** Wounds that take a long time to heal (more than 6 weeks). This may be due to chronic inflammation/infection, the size of the wound, etc. E.g. Pressure ulcers, leg ulcers, etc.

Chronic wound

3. **Burn wounds**: Wounds that are caused by boiling water, a hot iron, chemicals or electricity.

Burn wound

4. **Cancerous wounds:** These wounds can develop from a primary skin cancer or as a result of invasion of the skin by an underlying cancer e.g. breast cancer.

Cancerous wound

Wounds need to be cleansed in order to lower the amount of debris on the wound bed that impairs healing.

WOUND CARE

In order to achieve the maximum results in wound healing, the first thing that a caregiver must do is to upgrade

the patient's level of personal and environmental hygiene. Dressing a wound in a contaminated environment will contaminate the wound with bacteria.

Hands should be thoroughly washed for at least three minutes with enough soap and warm water.

Hands should be rinsed under running water and the tap closed by another person.

Hands should be dried well on a clean towel before any procedure is started.

BASIC PRINCIPLES OF WOUND CARE

1) If a patient has pain and painkillers are available, give them to the patient 20 minutes before the procedure to limit procedural pain.
2) Put a linen saver or a very clean towel underneath the area with a wound to establish a clean area to work on.
3) Remove the current dressings from the wound bed and discard it all into a separate plastic bag that will serve as rubbish bag for all the rest of the materials that needs to be thrown away. Remember the colour seen on the dressing, to record it later.
4) Wash hands again, dry well and wear gloves when doing the clean procedure.

Hand Washing

5) Pour cleansing solution little by little over the wound and dab the wound bed dry with clean gauze. Do not rub the wound bed.
6) If fluid is flushed over the wound bed with a syringe or out of a clean pour bottle, it is necessary to have a fluid collection container underneath to prevent the bed from getting wet.

Syringe with saline solution

7) The solution recommended for cleansing open wounds is Saline 0.9% solution.
8) Saline can be made at home.

SALINE SOLUTION

- 750ml water boiled for 5 minutes (do not use well or sea water).
- Cool to room tempreture.
- Add one teaspoon of table salt.
- Mix the solution until salt in completely disolved.
- Discard un-used saline and prepare it fresh for each procedure.

9) Lightly dry the wound bed after cleansing with clean gauze.
10) Put the ointment or cream on top of the new dressing (if it is gauze), then put it with the ointment side facing down on top of the wound bed. Press the gauze slightly to get an even spread of ointment over the wound bed.

11) Bandages are recommended to secure the dressing if the wound is situated on arms or legs. Plasters are recommended to secure the dressing to other body parts.
12) Keep a record on a sheet of paper where it can be written when the wound was done, by whom, what ointment was used, what color the wound bed was, what it smelt like, if the size was getting smaller and what the patient complained about.
13) Burn the refuge bag that holds all the soiled dressings and DO NOT dump it into the municipal waste system.

IMPORTANT POINTS TO REMEMBER

- Dry gauze on its own is NOT a wound dressing and will cause harm to the wound bed as it dries out and then sticks onto the wound bed and cause bleeding when it is removed again. Rather use gauze that is impregnated with white or yellow soft paraffin or a moist gauze dressing.
- Never use cotton swabs to clean the wound bed.

NECROTIC OR DEAD TISSUE (non-viable tissue)

• BLACK TISSUE • DEHYDRATED
• DRY • ALSO DESCRIBED AS ESCHAR
Example of a black necrotic heel pressure ulcer also described as an eschar.

• YELLOW OR GRAY TISSUE
• FLUID/ EXUDATE LEVEL VARIES ACCORDING TO THE DEPTH OR SIZE OF THE WOUND
• HIGH IN MOISTURE
• ALSO DESCRIBED AS SLOUGH
Example of a yellow or sloughy necrotic hip pressure ulcer.

• RED TISSUE
• FLUID/ EXUDATE LEVELS VARIES ACCORDING TO THE DEPTH OR SIZE OF THE WOUND
• MOIST WOUNDS
• ALSO DESCRIBED AS GRANULATION TISSUE
Example of a healthy red healing abdominal wound also described as a granulating wound.

• PINK TISSUE • FLUID/ EXUDATE LEVEL LOW
• ALSO DESCRIBED AS EPITHELIAL TISSUE
Example of a healthy pink nearly healed burn wound, also described as an epithelialising wound.

• UNHEALTHY GRANULATION TISSUE • HIGH LEVELS OF MOISTURE
• ODOUR PRESENT • NON-HEALING ULCER
• INCREASED PAIN
Example of an infected diabetic foot ulcer with significant green discoloration due to a bacterial infection (organism = pseudomona)

RED FLAG FOR REFERRAL

- A diabetic patient with a lower leg ulcer, a foot ulcer, or any wound that is difficult to heal.

Diabetic Foot

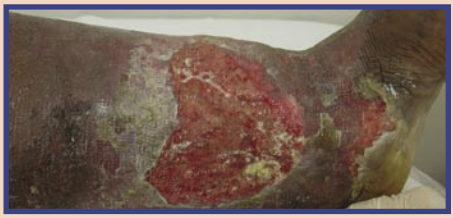
- In the case of a diabetic with infection of the deeper tissue characterized by redness, swelling, pain and warmth larger than 2cm on the leg or foot.

Infected leg ulcer

- Wounds where something is protruding from: like bone or ligament.

Protruding bone

- Signs of superficial and deep infection see Table A (I> Infection).
- Individuals with lower leg ulcers accompanied by swelling of the leg.



Swollen infected leg ulcer

- Any wound that contains dead tissue (yellow and black wounds).

Hints for wound care procedures in the home care setting

- It is better if one care giver takes responsibility for doing the wound procedure of an individual patient as it ensures that the same method is followed all the time, progress can be seen easier and establishment of trust to the patient.
- Make sure that a patient is washed and clean before the wound procedure and that the bed linen is not soiled at all.
- Supplies should be kept separate per patient in a sealed container to keep supplies as clean as possible.
- All containers used for cleansing fluid should be washed separately with dishwashing liquid in warm water after each procedure. It should be dried thoroughly and packed into the container with dressing supplies as to keep it separate from home use containers.
- DO NOT attempt to do a wound procedure if there are no dressing materials available to do the procedure with. This is a RED FLAG for referral to a professional clinic and to get the needed materials from there.

PRESSURE SORES

Pressure ulcers are complex lesions; they vary in size and severity ranging from skin discolouration, to damage of underlying muscle and bone.

Pressure ulcers are common in the hospital and nursing home facilities and are seen in homecare patients across South Africa.

Pressure sores are caused by several factors. The pressure may be caused when the person lies in the same position for a long period of time. Friction of the skin against the bed e.g. when the person is restless, is pulled up in bed or slips down.

Another factor is if the patient lies in a bed soaked in urine or faeces. The moisture causes the skin to soften and damage easily.

RISK FACTORS FOR THE DEVELOPMENT OF PRESSURE ULCERS

- If a patient sits in the same position for a long time a pressure sore may develop on the buttocks (sacrum).
- If a patient lies on his back for a long time without changing position a pressure sore may develop on the buttocks, heels, the back of the head and the back.
- If a patient lies or sits in a wet bed or chair due to urinary or faecal incontinence or sweating for a long time skin damage is likely to occur.
- If the caregivers often pull the patient into a higher sitting position in the bed and the patient continuously slides down, a pressure sore may occur due to the pulling and friction.

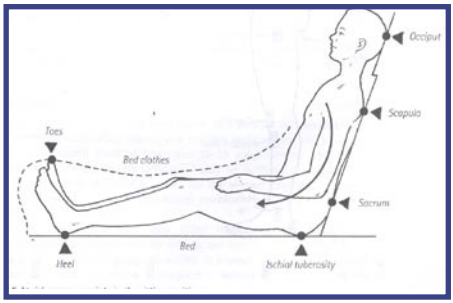


Diagram 1

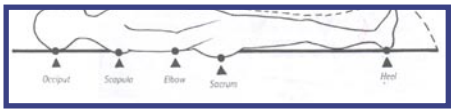


Diagram 2

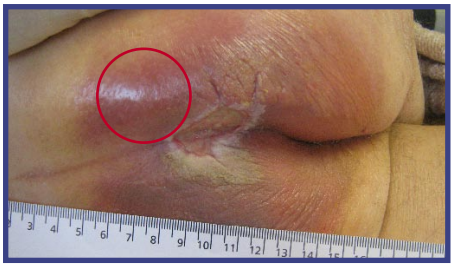
- People who are at risk of developing pressure sores are elderly and bed or chair-bound individuals.
- Thin people are also at risk as they have less protection over the bony areas.
- Obese people sweat easily and have excessive weight placed on bony areas when they sit or lie, and this may lead to skin breakdown.
- Individuals, who have lost sensation of the feet e.g. diabetics, run a high risk of developing pressure sores.
- Poor nutrition, incomplete intake of meat, fruits & vegetables and diary products, and inadequate drinking of fluids.

PREVENTION OF PRESURE SORES

Caregivers must be able to assess the patient's ability to change position and they must be able to teach patients and or caregivers about the importance of position change to prevent pressure sores. Caregivers must be able to assess whether the patients are able to tell when they are tired of sleeping or

sitting and in the case of incontinence, whether they are able to report when they are wet.

Remember: A non-blanchable discolouration of the skin where pressure was exerted, is the first degree of a pressure sore.



Discolouration of skin

PRECAUTIONARY MEASURES TO PREVENT PRESSURE SORE

General Precautionary Measures

- **INSPECT THE SKIN AT LEAST ONCE A DAY**
- Avoid bathing the individual in water that is too hot and use mild cleansing agents.
- Avoid massaging the bony parts because this may cause damage to underlying tissue.
- Use lotion or cream to moisten the skin.
- Encourage foods with high protein and calories (lean meat, poultry, fish, vegetables and fruit).
- Encourage the patient to drink water. At least six glasses of water per day.
- Wash the skin at times of soiling by a mild soap and luke warm water and pat dry the skin.
- Apply a waterproof ointment e.g. Zinc Oxide Ointment to prevent damage by urea and acids in urine and faeces.
- Lift the person rather than drag or pull. Use linen to move an individual in bed.

"PREVENTION,
is always better than cure"

BED-BOUND INDIVIDUALS

- Two hourly position changes are highly recommended.
- Keep bony parts (heels, buttocks, etc.) protected from direct contact from one another by using a pillow, sponge or sheepskin.
- Elevate the head of the bed for as short a time as possible.
- Avoid positioning directly on the hips.

CHAIR-BOUND INDIVIDUALS

- One hourly position changes are recommended.

- Ask the patient to shift his weight every 15 minutes if able to do so.

ACUTE WOUNDS OR TRAUMA WOUNDS

An acute wound has a sudden onset and is of a short duration. It includes surgical wounds, burns, bites, cuts, lacerations, abrasions and skin tears (Mulder et al, 2002). The most often sustained trauma at home involves burns.

Trauma wound

- If there is bleeding, apply gentle pressure to the affected area with gauze or a clean cloth.
- If the wound is contaminated, clean it with luke warm water and mild soap or cleansing agent.
- Antiseptic ointment may be applied.
- Select an ideal dressing.
- Elevate the affected limb to prevent swelling.

BURNS

Burns are tissue injuries that result from contact with heat, chemical, or electrical sources or from friction or exposure to the sun and extreme cold (Kluwer, 2008).

BURNS CAUSED BY HOT FLUIDS, FLAMES etc.

Emergency measures at the scene of a burn accident

- Cool the burned area immediately with cold water.
- If the cooling down is applied within 10 minutes, it can reduce the depth of the burn and the pain.
- Do not use iced water, ice packs or cold compresses, as they may impair the blood supply to the wound and cause more harm than good.
- Cover the wound with a dressing that will not stick to the wound and that will promote moist wound healing.
- If the burn wound has not healed within 14 days, refer the victim to the doctor.
- Blisters should not be broken, as they prevent the wound from being contaminated.

Burns that MUST go to hospital:

- Burns to the face, neck, chest, hands and feet.
- All children regardless of the smallness of the burn.
- All old frail people regardless of the smallness of the burn.
- All burn situations where smoke was present.

CHEMICAL BURNS

Emergency measures at the scene of chemical burn accident

- The caregiver should wear gloves to protect him/herself against the specific chemical.
- Remove all clothes from the affected skin areas.
- Keep an affected area under a strong stream of water to dilute or remove the chemical agent.
- Pay special attention to the following areas of the body: hair, between the toes, fingers and under the nails.
- Do not apply any oil, ointment, solutions etc. to the wound bed, definitely not something that can contaminate the wound bed e.g. shoe polish, toothpaste, brake fluid, etc.

Child's hand with burn wound

- In the case of a small burn, cover the wound with impregnated gauze dressing or a transparent film dressing and apply a bandage or plaster.
- In the case of extensive burns, cover the open damaged area with a clean cloth or clean cotton sheets, clean film or a freezer bag.
- Cover the victim with a blanket, as they lose heat quickly.
- Transport the victim to hospital immediately.

OTHER TRAUMA WOUNDS

Trauma that needs to go to hospital:

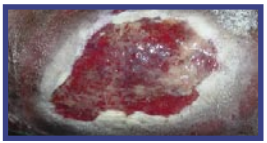
- Knife stabs
- Gun shot wounds regardless of how big the bullet is
- Dog bites.
- Human bites.
- Lacerations sustained with rusted material.
- Contusions sustained with a blunt object due to assault.
- Abrasions that involve lots of dirt and sand ingrained in the skin.

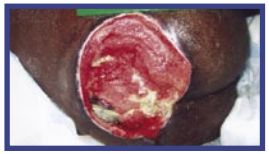
Traumatic injury to toe

BASIC PRINCIPLES OF MODERN WOUND MANAGEMENT

The basic principles of modern wound management can be remembered by the following acronym **"TIMES"**. The application of the TIMES principles promote wound healing through the removal of harmful dead tissue, the minimizing of bacteria, keeping the wound bed moist and protecting the wound bed and surrounding skin of any injuries. See table A for detailed discussion.

TABLE: A

T	I	M	E	S
Tissue non-viable Caregivers must inspect the wound bed for the presence of dead tissue. Dead tissue can appear yellow, cream or black.  *Sloughy wound* If there is anything like that, the individual must be referred to the wound care clinic or to the doctor to have the dead tissue removed. ***Why?*** Dead tissues are the best medium for the growth of bacteria, that will cause infection later.	**Infection/inflammation** Individuals with wounds must be inspected for any signs of **Superficial infection:** Two to three of the following: • Increased wound fluid • Bad smell from the wound • Non-healing rate of the wound • Increased temperature of the surrounding skin • New areas of skin breakdown recognized as a black, yellow or cream area. • Swelling around the wound. **Signs Deep Infection:** Two to three of the following: • Easily bleeding wound • Wound size getting bigger	**Moisture** Moisture balance in wound healing is important because it is a good environment for cells that promote wound healing. Moist wound healing is encouraged, but not too wet nor too dry. If the wound has excessive moisture/ fluid, caregivers must use wound products that will absorb and retain moisture e.g. foam dressings.  *Wet wound*	**Edges** Wound edges/ margins should be inspected for signs of contraction that show that wound margins come close to each other to cover the wound bed. A pinkish colour of wound edges is a good sign of wound healing.  *Pinkish colour of wound edges*	**Surrounding Skin** Caregivers must take care of the skin around the wound. Check surrounding skin damage that can be caused by adhesive plaster, chemical irritants in faeces and urine.  *Damage of surrounding skin*  *Erythema (redness around wound)*

 *Blackend wound*	• Increased temperature in the surrounding skin • An underlying bone is visible in the wound. • New area of skin breakdown around the wound. • Wound fluid, redness and swelling. • Bad smell (odour). The individual presenting with all the above, must be referred immediately to the wound care clinic or doctor. ***Why?*** So that the infection can be treated with special dressing in the case of superficial infection or antibiotics in case of deep infection.  *Moisture balanced wound*	If the wound is dry, products that will add moisture must be used e.g. Ge  *Dry wound* If the wound bed is moist then dressings that will retain moisture must be used e.g. transparent film dressings or hydrocolloids.	***Why?*** If the wound edges do not show improvement the caregiver must reassess the cause and refer the patient if necessary.	**Prevent skin damage.** 1. By washing the surrounding skin with mild soap and luke warm water. 2. Use skin sealants or barrier cream to protect the skin.

The TIMES module is used by the University of the Free State and adapted for the purpose of this booklet for the specified audience.

CONCLUSION

A holistic approach (overall approach) when taking care of patients or individuals with a wound is critically important in order to discover all the factors that may influence the wound healing process. Multidisciplinary approach (involvement of other health care practitioner e.g. Doctors, Physiotherapists, Podiatrists, Dietitians, psychologists) in wound healing is always encouraged as will deliver the best interest for the patient or individual with a wound.

REFERENCES

BARANOSKI, S., AYELLO, A.E. 2008. 2ND Edition. Wound care essentials Practice principles. Lippincott Williams & Wilkins. USA.

KLUWER, W. 2008. Wound Care made Incredibly Visual! Lippincott Williams & Wilkins. USA.

MULDER, M., SMALL, N., BOTMA, Y., ZIADY, L., MACKENZIE, J. 2002. Basic Principles of Wound Care. Maskew Miller Longman, Cape Town.

http://www.apparelyzed.com/pressuresores.html, accessed on 06/02/ 2009.

http://www.bedsores-pressure-sores.com/, accessed on 06/ 02/ 2009.

The School of Nursing at the University of the Free State offers three programmes on an undergraduate, post-basic and postgraduate level.

Undergraduate Program Director: Dr Renette Myburgh - Tel: (051) 401 2684
Administrative Officer – Tel: (051) 401 2361 Fax: (051) 401 3399
E-mail: padayachee.md@ufs.ac.za

Post-basic Program Director: Prof M. Mulder
Tel: (051) 401 3475/9169
E-mail: gnvkmm.md@ufs.ac.za
Administrative Officer: Ms C. Vermeulen
Tel: (051) 401 2967/2407 Fax: (051) 401 9463/3399
E-mail: vermeucd.md@ufs.ac.za

Program Director: Dr L. Roets
Tel: (051) 401 3536 Fax: (051) 401 9140
E-mail: gnvklr.md@ufs.ac.za
Administrative Officer: Mrs K. Erasmus
Tel: (051) 401 9168 Fax: (051) 401 9140
E-mail: gnvkjse.md@ufs.ac.za

Web: http://www.ufs.ac.za

"Student showing innovation within a limited resource environment to apply safe practice"

ARJOHUNTLEIGH

ArjoHuntleigh South Africa (Pty) Ltd
2 Willem Cruywagen Avenue,
Klerksoord, Pretoria, 0116
South Africa

Phone: +27 [0] 12 542 4680
Fax: +27 [0] 12 542 4982
za_sales@arjohuntleighafrica.com
www.ArjoHuntleigh.com

ArjoHuntleigh is committed to helping people in the care sector - nurses and patients, carers and residents - by providing solutions that enhance their everyday interactions. We focus on the key areas of patient handling, hygiene systems, medical beds, pressure area care, wound care and infection control. **Welcome to a wider range of possibilities to improve quality of care.**

...with people in mind

Contact us:

Unit 16,
The Northcliff Office Park,
203 Beyers Naude Drive,
Northcliff, Johannesburg

Tel: 011 340 9100

www.whasa.org

WHASA

WOUND HEALING ASSOCIATION OF SOUTH AFRICA