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G.F. Strong Rehab Centre
A part of the Vancouver Coastal Health Authority

Spinal Cord Injury Info Sheet

An information series produced by the Spinal Cord Program at GF Strong Rehab Centre.

SKIN AND WOUND CARE

What does skin do?

1. It protects you.
2. It provides sensory information.
3. It helps to regulate body fluids and temperature.

How is skin affected by a Spinal Cord Injury?

Functions	Change	You Need To
Protection	No Change	Avoid breaks in your skin
Sensation	Decrease in or no feeling of touch, pain, & temperature below level of your SCI	Substitute specific protective habits to prevent injury to skin & underlying tissues
Temperature Regulation	Less sweat to evaporate & cool you below level of your SCI May have excessive sweating above level of your SCI	Control temperature of your environment (stay out of sun, use air conditioning). When in the sun, drink plenty of fluids. Bathe more frequently. Possible take medication.
Fluid Regulation	No voluntary muscle action below level of your SCI can produce swelling of the tissues due to pooling of fluids (edema).	Elevate swollen parts to reduce edema. Wear compression stockings.

What is skin breakdown?

- Adequate circulation of your blood is needed to keep the cells of the skin and body alive.
- If this circulation is cut off the cells fed by those blood vessels will die and sores will develop.
- Can begin at the surface of the skin, or can begin deep inside the tissues and then erupt on the surface of the skin.

Types of skin breakdown

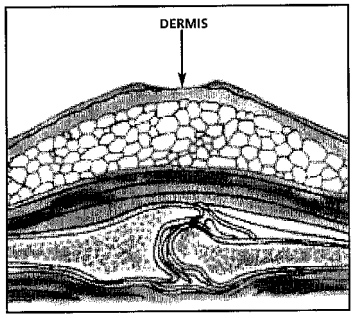
- PRESSURE SORES are caused by excess outside pressure, usually over bony prominences.
- SHEARING SORES are caused when 2 layers of tissue next to each other are pulled in opposite directions.
- FRICTION SORES are produced by constant rubbing or pulling of skin across surfaces

How to describe and stage wounds

- Location
- Size
- Wound base
- Wound edges
- Surrounding skin
- Stage

Stage 1:

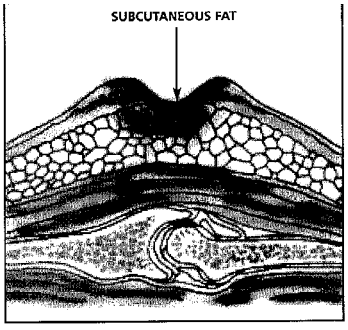
- Defined area of persistent redness (non-blancheable erythema).
- May appear as persistent red, blue or purple hues in darker pigmented skin.
- May also include changes to skin temperature (warm/cool), tissue consistency(firm/boggy) or sensation (pain/itching)



Stage I:

Stage 2:

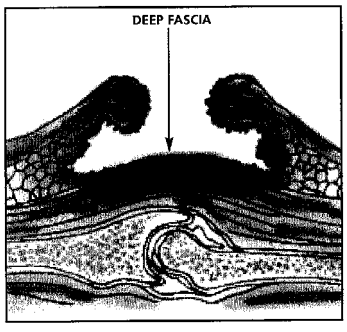
- Partial thickness skin loss involving epidermis, dermis, or both.
- Ulcer is superficial and presents clinically as an abrasion, blister or shallow crater.



Stage II:

Stage 3:

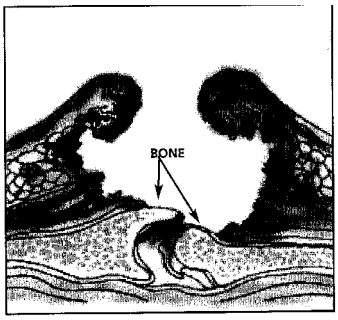
- Full-thickness skin loss involving damage to or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia.
- Presents clinically as a deep crater with or without undermining of adjacent tissue



Stage III:

Stage 4:

- Full-thickness skin loss with extensive destruction, tissue necrosis, or damage to muscle, bone or supporting structures
- Undermining and sinus tracts also may be present



Stage IV:

Stage ?

- Can't stage a wound with eschar (wound base not visible)

Basic Theory of Dressing

- No one dressing will facilitate repair through all the stages of healing.
- An accurate wound assessment drives treatment/dressing choices decisions.

Goals of Dressing

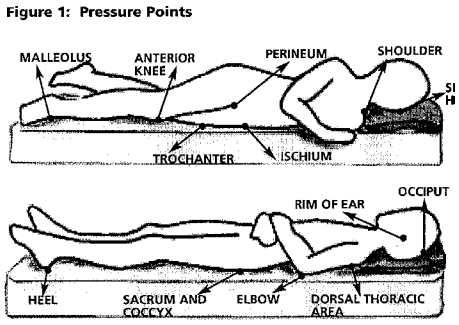
Debride: remove necrotic tissue (necrotic tissue mechanically impedes healing and is a medium for bacterial colonization and infection)
Cleanse: manage exudate, treat infection, remove slough, encourage granulation.
Protect: prevent trauma, maintain a moist environment.

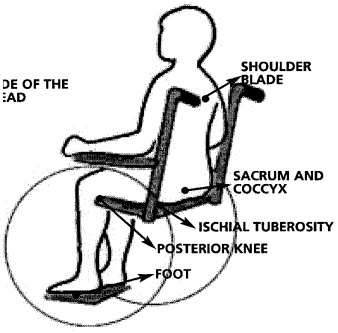
What are the risk factors for skin breakdown?

- sensory loss
- moisture
- reduced activity
- reduced mobility
- poor nutrition
- friction, shear, pressure
- age
- diabetes
- history of pressure ulcers
- infection
- edema
- obesity
- emaciation
- drug/alcohol issues
- smoking
- spasticity

Common Pressure Areas

- Heels and ankles
- Hip bones
- Tailbone
- Sitting Bones
- Elbows





How to monitor skin for breakdown

- Look at your skin twice a day.
- Check <u>all</u> bony prominences.
- Use a mirror! Use your attendants!
- Look closely for early warning signs of cells not getting adequate circulation:
  - redness
  - firmness

How to Assess the Likely Cause of the Skin Breakdown

Whole team (nursing, attendants, therapists, patient) needs to be involved!

1. Have your whole team (nursing, attendants, therapists, patient) look at the wound so they get a clear picture of location and shape and can assist in problem solving
2. Brainstorm as to possible causes and contributing factors.
3. Try to determine cause of initial injury and also what might slow wound healing.

The Assessment

- All support surfaces: bed/mattress, wheelchair, bathing/toileting equipment, car, exercise equipment, etc…
- All transfers: manual and lift
- Ability to weight shift effectively in wheelchair
- Ability to reposition in bed
- Affects of clothing:
  - seams, back pockets
  - tightness, wrinkles
  - shoe size
- Affect of heat/moisture:
- Physical assessment
  - range of motion
  - spasticity
  - sensation/strength

Intervention Strategies

Prevention first! You need to be aware of all the following intervention strategies, both for prevention of pressure ulcers and treatment of existing ones.

- Daily skin checks, either independently or by directing others
- Support Surfaces:
  - Bed: appropriate mattress
  - Wheelchair: best cushion for pressure distribution, chair set-up
  - Alternate surfaces: need for extra padding, different set-up, etc.
- Transfers
  - proper techniques to eliminate shearing, hitting the wheel, etc.
  - may have to avoid use of transfer board or have more assistance temporarily
  - sling placement: ensure they aren't causing shearing or tears by pulling the buttocks apart (may need to cross leg straps under both legs or use a hygiene sling)
- Weight shift in chair:
  - pressure mapping can be helpful as educational tool to learn most effective weight shift options
  - ideally: 30 second weight shift every 15 minutes
  - need for use of tilt and/or recline for clients who are unable to do manual weight shift (usually have to use full tilt to get effective weight shift)
- Bed Positioning:
  - assess ability to turn and position themselves independently (including placement of pillows)
  - protect bony prominences: use of pillows vs. "donuts" (DO NOT USE)
  - 30 degree sidelying position or prone
  - use of turning sheet &/or trapeze to reduce shear
  - avoid sitting position in bed!!

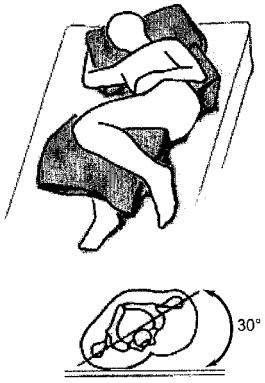


Figure 2: Side-lying at a 30-degree angle.

Important things to remember

- They can be deadly if infection gets into the body's blood circulation.
- Importance of daily skin checks (self or directed), uptimes, seating/positioning
- Individualized technique for weight shift.
- Individualized approach to each wound. Assess likely cause and take action accordingly (i.e. bedrest for wounds caused by too much time in bed is inappropriate).
- Always remember that bodies need adequate water and food to heal. Protein requirements are twice as high with an open wound.
- Make sure that everyone involved is communicating…the best dressings for the wound won't work if the underlying cause of the wound isn't addressed.
- Pressure wounds have a significant affect on quality of life and hospital stays.
- Prevention is always the best approach, but quick detection is also very important.