

**Category/Stage II:** Partial thickness, loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled blister.

Presents as a shiny or dry shallow ulcer without slough or bruising (bruising indicates suspected deep injury). This Category/Stage should not be used to describe skin tears, tape burns, perineal dermatitis, maceration or excoriation.

**Category/Stage III:** Full thickness tissue loss. Subcutaneous fat may be visible, but bone, tendon or muscles are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunneling.

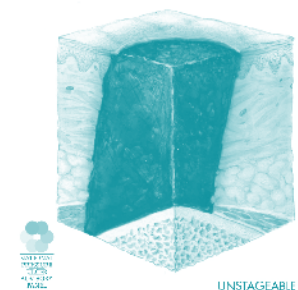
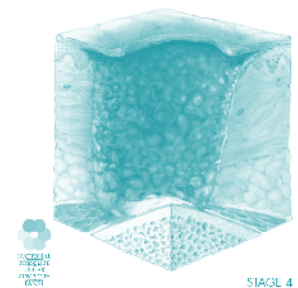
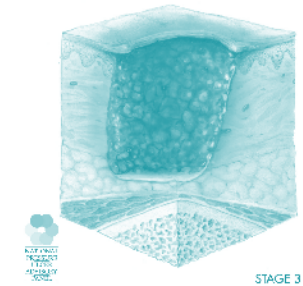
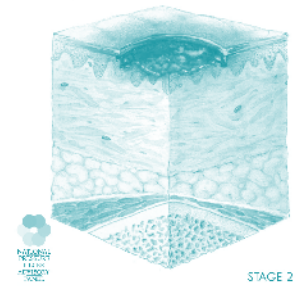
The depth of a Category/Stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and Category/Stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep Category/Stage III pressure ulcers. Bone/tendon is not visible or directly palpable.

**Category/Stage IV:** Full thickness skin loss with exposed bone, tendon or muscle. Slough or eschar may be present on some parts of the wound bed. Often includes undermining and tunneling.

The depth of a Category/Stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have subcutaneous tissue and these ulcers can be shallow. Category/Stage IV ulcers can extend into muscle and/or supporting structures (e.g. fascia, tendon or joint capsule) making osteomyelitis possible. Exposed bone/tendon is visible or directly palpable.

**Unstageable - Depth Unknown:** Full thickness tissue loss in which the base of the ulcer is covered by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed.

Until enough slough and/or eschar is removed to expose the base of the wound, the true depth, and therefore Category/Stage, cannot be determined. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as “the body’s natural (biological) cover” and should not be removed.



## Appendix F: Force Management

*Appendix F - Pressure Reduction and Pressure Relief on pg. 65 of the 2005 guideline is replaced by the following information. Note the change in the title of the appendix.*

Decreasing peak points of pressure over the skin has been associated with a decreased risk of pressure ulcer development (Brienza et al., 2001). For this reason, it is important to consider the pressure between the client’s skin and the surface upon which they are sitting or lying. Many devices are available to help manage pressure. Pressure is not the only force that contributes to pressure ulcer development; friction and shear also play a factor. To manage these forces caregivers require a solid understanding of these forces.

Pressure is defined as “the force per unit area exerted perpendicular to the plane of interest” (NPUAP, 2007, p. 127). To experience pressure, try this activity:

*“Place your right hand palm down on a table. Take the index finger of the left hand and press it into the back of your positioned hand. This is pressure. Now, flatten your left hand and press it on top of the dorsum (back) of the right hand that is still palm down on the table. You can tolerate more pressure because it is distributed over a greater surface area.”* (Norton et al., 2011).

Many devices designed to manage pressure work on this principle of increasing the surface area, to decrease focal areas of pressure.

Shear is defined as “the force per unit area exerted parallel to the plane of interest” (NPUAP, 2007, p. 127). To experience shear, try this activity:

*“Reach under your buttocks while you are sitting, and find your ischial tuberosities (backside bones). Rock your upper body forward and backward. Can you feel the movement of the ischial tuberosities? The force between the ischial tuberosity (bone) and the skin is called shear”* (Norton et al., 2011).

Friction is defined as “the resistance to motion in a parallel direction relative to the common boundary of two surfaces” (NPUAP, 2007, p. 124). To experience friction try this activity:

*“Reposition your right hand, palm down on a table. Slide this hand toward you. The force between your hand and the table is friction”* (Norton et al., 2011).

Friction and shear are often confused as these forces often occur together. It is friction that holds the skin against the surface, allowing the client’s bony structures to slide against the inside of her or his skin. It is especially important to identify shear forces as they double the impact of pressure (Ohura et al., 2008). One sign that shearing forces are occurring is asymmetrical undermining of the wound (Ohura et al., 2008).

Many devices designed to manage friction and shear do this through the cover – decreasing friction against the skin, or designing the cover with two layers that slide against each other, rather than having the skin slide across the top cover.

Clients who are at risk for developing pressure ulcers, or who have developed a pressure ulcer should be referred to an occupational or physical therapist skilled in seating and mobility assessments to address the forces of pressure, friction and shear.

### General Considerations:

- Assess all surfaces upon which the client sits or lies in terms of pressure, friction and shear.
- Assess all transfer and repositioning activities in terms of pressure, friction and shear.
- Ensure that the client is comfortable on all surfaces
- Ensure the equipment is in good working order and is not worn out.
- Ensure the surfaces are positioned and used correctly.
- Check that the surface is not bottomed out:
  - Foam – should rebound to its original shape when the client’s weight is removed. If it does not rebound, it is considered bottomed out.
  - Air – slide your hand, palm down, between the client and the air surface at the lowest bony prominence. The client should be floating in the surface. If there is less than a half an inch of air between the client’s lowest bony prominence and the bottom of the surface, the surface has bottomed out.

See Appendix L for more information about selecting therapeutic support surfaces.

See Appendix M for more information about seating.

## Appendix G: Education Resource

Note change to the acronym CAET- Canadian Association **for** Enterostomal Therapy under the heading *Wound Care Association*.

**Organizational Enablers** are added under the heading *Other Resources* on page 69 of the 2005 guideline. These enablers are: a) a patient education brochure; b) a therapeutic surface algorithm; c) a pressure ulcer prevention poster; d) a pressure ulcer staging poster; and e) a turning clock. All of these resources can be access at [www.rnao.org/Page.aspx?PageID=924&ContentID=816](http://www.rnao.org/Page.aspx?PageID=924&ContentID=816) under the *Related Items* section.