

## Frequently Asked Questions (FAQ)

### General

The following information was copied verbatim from the National Pressure Ulcer Advisory Panel (NPUAP) website [www.npuap.org](http://www.npuap.org) and is current as of 7/22/07.

#### **What is Prevalence?**

Prevalence measures all cases of a condition (e.g., pressure ulcers) among those at risk for developing the condition. Measures of prevalence are made at one point in time (e.g., a specific day).

#### **What is Incidence?**

Incidence is the number of new cases of pressure ulcers in a specific period of time (e.g., 6 months or 1 year) in relation to the total number of persons in the population who are "at risk" at the beginning of the time period.

### Pressure Ulcer Definition AND Etiology

#### **Are all "ulcers" pressure ulcers?**

No. Skin breakdown may be caused by a variety of reasons including trauma (for example, skin tears), moisture (excoriation and maceration), arterial insufficiency (arterial ulcers), venous insufficiency (venous ulcers), and diabetic neuropathy (diabetic or neuropathic foot ulcers). These wounds are often confused with pressure ulcers. Pressure ulcers are caused by prolonged pressure and typically occur over bony prominences in bed- or chair-bound individuals. Wound characteristics can be used to distinguish pressure ulcers from other types of chronic wounds.

#### **If a patient with poor peripheral circulation and diabetic neuropathy in the lower extremities develops an ulcer from a shoe rubbing on the side of the foot, is that wound a pressure ulcer?**

No. It is not a classic pressure ulcer that occurred in a bed- or chairbound patient. Nonetheless, ulcers of this type can be reduced in ambulatory patients by providing proper fitting footwear.

### Pressure Ulcer Staging and Assessment

#### **What is the new definition for a Stage I pressure ulcer?**

A Stage I pressure ulcer is an observable pressure related alteration of intact skin with indicators, as compared to an adjacent or opposite area on the body, which may include changes in one or more of the following: skin temperature (warmth or coolness), tissue consistency (firm or boggy feel), and/or sensation (pain, itching). The ulcer appears as a defined area of persistent redness in lightly pigmented skin, whereas in darker skin tones, the ulcer may appear with persistent red, blue, or purple hues. (as revised & approved by the NPUAP Board of Directors, February 1, 1998)

#### **Can a pressure ulcer be acquired outside a facility and not "breakdown" till after admission to the facility?**

Yes. Clinical signs of injury due to pressure may not be apparent for a few days after the pressure injury event. However, there are usually early, subtle signs overlying the pressure injury which suggest there will be subsequent deep tissue loss. These include profound redness and edema and/or induration of the soft tissue. Usually the center of the area will appear purple or very dark. It is very important to carefully document these assessments upon admission and to note the progress of the ulcer as it debrides itself of dead tissue. This debridement process results in the eventual loss of skin and other soft tissue layers.

### Wound Infection and Infection Control

#### **What causes Wound Infection**

Wound infection is caused by the invasion and multiplication of microorganisms in viable wound tissue, causing local tissue damage.

#### **How is wound infection diagnosed?**

Wound infection is difficult to diagnose. The definitive method for diagnosing wound infection is through quantitative cultures of viable wound tissue or wound fluid. Wounds with greater than 10<sup>5</sup> organisms per gram of tissue or ml of fluid or with virulent organisms, such as B-hemolytic Streptococci, are considered infected. Unfortunately, these cultures are difficult to obtain and process. Growth of organisms from a simple swab culture of the wound surface is not indicative of infection. The culture specimen must be of "tissue" or "tissue" fluid, not surface fluid or exudate.

Clinical signs and symptoms are often used in the clinical setting to diagnose infection or to trigger the acquisition of wound cultures.

### **What are the clinical signs and symptoms of localized infection?**

The clinical signs and symptoms of local infection include increasing pain in the wound, erythema, edema, and heat of the periwound area, foul odor, and purulent drainage. These are localized signs and symptoms of infection, not systemic signs of infection.

### **What are the signs and symptoms of advancing wound infection?**

In addition to the localized signs identified above, elevated white blood cell count and body temperature are signs of systemic infection, such as cellulitis, osteomyelitis, and bacteremia. When localized infection is present always assess the patient for signs of systemic infection.

### **Does the presence of these signs and symptoms indicate infection?**

The presence of these signs and symptoms indicates that the wound may be infected. Because many of these signs (i.e., erythema, edema, and pain) are a part of the inflammatory response to injury, wound re-injury (e.g., prolonged pressure or friction) may cause these signs to present despite low organism levels. Whether or not these signs are indicative of organism invasion is a clinical judgement that must be made in light of pertinent wound variables (i.e., is there recurring wound injury?) and the number of signs and symptoms present. Purulent exudate may be the by-product of a successful response to control the growth of organisms, and, therefore, it may be present in non-infected wounds. Cloudy or milky appearing fluid under semi-occlusive or occlusive dressings is not a sign of infection.

### **Is necrotic tissue a sign of infection?**

Not necessarily. However, necrotic tissue does support microorganism growth and should be debrided from the wound as a first step in managing a non-healing wound. The only exception is the dry eschar on the heel, which can be left intact, but should be regularly assessed for infection.

### **Does the absence of these signs and symptoms indicate the wound is NOT infected?**

No. Individuals with pressure ulcers, or other types of chronic wounds, may not express the signs of infection even when their wound has significant numbers of microorganisms because they are unable to mount an adequate inflammatory response. If the ulcer does not contain necrotic tissue, the AHCPR guideline on pressure ulcer treatment recommends treating a pressure ulcer that does not exhibit signs of healing with topical antibiotics. If the ulcer does not respond within two weeks, the AHCPR guideline recommends the wound be quantitatively cultured.

### **Do infected pressure ulcers need to be treated with systemic antibiotics?**

No. Systemic antibiotics are not needed for wounds with clinical signs of local infection. Topical antibiotics effective against gram-negative, gram-positive, and anaerobic organisms should be considered (e.g. silver sulfadiazine, triple antibiotic). Always document the reason for using topical antibiotics (e.g., presence of redness, warmth, pain or lack of healing despite optimal management) and the response of the wound to treatment. Advancing cellulitis, osteomyelitis, and bacteremia do need to be treated with systemic antibiotics.

### **Are clean, nonsterile dressings acceptable for wound care?**

Yes. Pressure ulcers are nonsterile wounds. They are all contaminated with microorganisms. There is no need to use sterile dressings on these wounds. "Clean," bundled dressings are acceptable to use as long as they are stored and consumed in a manner that keeps them clean. Clean dressings should be stored in their original packaging or other plastic wrap that protects them from moisture and dust. Care providers should wash their hands before they remove dressings from the package in order to not contaminate the dressings by reaching into the package with soiled hands and/or gloves.

### **Are clean, non-sterile gloves acceptable for wound care?**

Yes. One pair of clean (non-sterile) gloves can be used to treat multiple ulcers on the same patient. If this is done, start with the cleaner appearing wounds and move to the larger and/or most contaminated appearing wounds. When in doubt, change gloves between ulcers. Do not contaminate dressing supplies and wound care containers (i.e., solution bottles) with gloves that have been in contact with the ulcer.

### **What about cross-contamination?**

Common treatment carts should be left in the hall and not taken into individual rooms. A package of clean dressings should not be shared among different patients. Each patient should have their own container of dressing supplies in order to prevent cross-contamination. Gloves should be removed and hands washed between patients. Wear

additional barriers, such as gowns, aprons, or masks/goggles when moist body substances (e.g., secretions, blood, or body fluids) are likely to soil clothing or the skin/eyes.

## **Pressure Ulcer Healing and Treatments**

### **What is the first step in addressing a non-healing wound?**

The first step in managing a non-healing wound is to debride the wound of necrotic tissue and/or slough if present. If the non-healing wound is clean, the AHCPH guideline on pressure ulcer treatment recommends treating the pressure ulcer with topical antibiotics. If the ulcer does not respond within two weeks, other reasons for the ulcer's failure to respond need to be explored.

### **What other patient conditions should be assessed and documented when a wound fails to heal?**

Other patient conditions may be contributing to lack of healing progress such as poor nutritional status and/or poor circulation. Nutritional status can be assessed and documented through laboratory values (e.g., albumin level and CBC) and dietary intake. Interventions should be taken to correct nutritional or intake problems if they are consistent with overall patient treatment goals. The circulatory status of lower extremity wounds should be assessed through palpation/doppler of pulses (popliteal, dorsalis pedis, posterior tibial), capillary refill, and skin temperature (warm, cool).

### **How should red, excoriated sacral areas due to incontinence be treated?**

Reddened, excoriated areas due to incontinence need to be protected from moisture. This can be accomplished by frequent toileting and/or brief changes, the use of absorbent undergarments, and the use of moisture barriers applied to the skin after each incontinent episode. These areas should not be treated with moist dressings. The goal is to keep the area dry.

## **Nutritional Support for Patients**

### **What is the role of nutritional support for patients in the prevention and treatment of pressure ulcers?**

#### **Overview**

The benefit of nutritional evaluation and intensive nutritional support (including vitamin and mineral supplementation) in patients at risk for and with pressure ulcers is not supported by rigorous clinical trials. Despite this "lack of proof," NPUAP endorses the application of reasonable nutritional assessment and treatment for patients at risk for and with pressure ulcers. The following paragraphs summarize the current NPUAP positions on these topics. An NPUAP task force is currently examining the important issues related to nutritional evaluation and support of patients at risk for and with pressure ulcers.

#### **Assessment**

Practice standards in hospitals and nursing homes require structured nutritional assessments, and some nutritional parameters (e.g., low body mass index, low serum albumin) are recognized predictors for pressure ulcer development.<sup>1,2,3</sup> However, no studies have established any single or combination of nutritional measurements that can accurately predict the risk of pressure ulcer development, or the likelihood of pressure ulcer healing.<sup>4</sup> In addition, in many or most patients with pressure ulcers, some markers of "malnutrition" (e.g., low cholesterol, low serum albumin) are probably more likely to be reflective of the acute inflammatory processes associated with the development of Stage III and IV pressure ulcers and/or an underlying chronic disease, rather than to actually represent overall nutritional status.<sup>5,6,7</sup>

#### **Treatment**

Several small studies and expert opinion are consonant with providing enhanced caloric and protein supplementation in patients with pressure ulcers who are underweight or losing weight. Commonly recommended nutritional goals are: 35-40 kcal per kg per day for total calories and 1.0-1.5 g protein per kg per day for total protein. In addition, surveyors also regularly recommend (and enforce the practice of) enhancing caloric and protein intake in nursing home patients with pressure ulcers. Particularly for nursing home residents, no good data show that enteral feeding prevents new pressure ulcers or accelerates healing of those already present, and some data show no benefit or worse outcomes in tube fed patients.<sup>4</sup> Ongoing national studies are attempting to better define the role of intensive nutritional evaluation and treatment for nursing home patients at risk for and with pressure ulcers.<sup>8</sup> The use of vitamin C and zinc supplementation is widely practiced, but remains unsubstantiated and controversial. No data are available to support the use of other dietary supplements (e.g., arginine and other amino acid supplements). No studies support the use of frequent laboratory monitoring (e.g., weekly or monthly measurement of serum pre-albumin or albumin) as part of a routine treatment plan.