Heel Pressure Ulcer Protocol: 
A Critical Task For Your Facility

A White Paper presented by

DM Systems, Inc.
Heel Pressure Ulcers are an increasingly prevalent, increasingly preventable condition in healthcare facilities in the U.S. Not only do heel pressure ulcers (and other types of pressure ulcers) cause great discomfort for patients, they also cause rising costs for your facility. These costs do not just stem from the prevention and treatment of pressure ulcers, but also from the rise in litigation tied to this condition.

While specific numbers vary, experts in the field of skin and wound care suggest that annually, 2.5 million patients are treated in acute-care facilities for pressure ulcers in the U.S. With the heel being the second most prominent location for pressure ulcers, it is not difficult to extrapolate how many patients will suffer from this problem. More relevant to the long-term care industry is that pressure ulcers are more prevalent in patients 65 years old and older, a population that will represent one out of every five Americans by 2030.¹

A Brief Definition of Heel Pressure Ulcers

The NPUAP (National Pressure Ulcer Advisory Panel) defines a pressure ulcer as a "localized injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear and/or friction." Pressure ulcers used to be referred to as bedsores because they are often prevalent in patients who are bedridden a majority of the time. Healthcare providers and skin/wound care experts have since learned that any kind of consistent pressure and friction can contribute to the development of pressure ulcers.

The Problem

According to a June 2010 report on the economic measurement of medical errors (Milliman, sponsored by Society of Actuaries), heel pressure ulcers represent a treatment cost annually in the U.S. of $11 billion. Patients who develop heel pressure ulcers are likely to require more treatment, more care, and longer stays in facilities.

The complexity of the heel pressure ulcer problem does not just lie with the expense in caring for the patient. As was discussed in the November 2009 issue of Long-Term Living, litigation tied to the development of pressure ulcers is also an increasing problem. Dr. Diane Krasner, PhD, RN, CWCN, CWS, BCLNC, FAAN, and wound & skin care specialist, noted that all of the regulatory pressure regarding pressure ulcers has been a move forward for the healthcare industry, but it also has created a scenario where "plaintiffs' attorneys now have regulatory muscle to support their lawsuits for negligence or wrongful death related to pressure ulcers."

Among those regulatory developments that long-term care facilities must be cognizant of are the 2004 Tag F314, which outlined the care requirements for the prevention and treatment of pressure ulcers, and the 2005 Deficit Reduction Act (DRA), which outlined the difference between hospital-acquired and present-on-admission indicators.

The Solution

The first and most important step in preventing heel pressure ulcers in your facility is to develop a heel pressure ulcer protocol for treatment and prevention. The ideal protocol will include clearly defined guidelines for assessment, prevention, and treatment. Dr. Krasner notes that when developing a protocol for your facility, the avoidance of words like "always" and "never" can help prevent litigation problems. The remainder of this document will help you develop these three phases of your heel pressure ulcer protocol.

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**Assessment**

One of the most important steps in creating an assessment process is to make sure all staff are educated on how to assess a patient. We recommend that all adults receive a complete skin assessment upon admission unless they are admitted for behavioral issues. In acute care facilities, behavioral and obstetrics/gynecology patients are excepted.

There is a lot to consider when assessing whether or not a patient is at risk for a heel pressure ulcer. The Norton Scale, Braden Scale, and Waterlow Scale help determine a patient's risk based on factors like the patient's ability to sense pressure or discomfort, the amount of moisture the patient's skin will be subjected to, the patient's activity and mobility levels, and many other factors. The Braden Scale is our preferred measuring tool. If a patient scores below a 17 on this scale, they are considered at risk.

Beyond what the three primary heel pressure ulcer scales measure, there are many other factors that need to be assessed upon a patient's admission. For example:

- Does the patient suffer from large vessel disease?
- Is the patient diabetic? Do they have sensory perception in their fingers and toes?
- Has the patient suffered from pressure ulcers in the past? This is the greatest indication of future pressure ulcers
- Will the patient be immobile for more than 4 hours at a time?
- Can the patient raise his or her leg in a straight position?
- Is the patient suffering from malnutrition or incontinence?
- Will the patient need to be restrained?
- Is the patient on vasopressors, ventilation, or dialysis?

It is not only important to assess the patient for all of these factors, but it is also important to record all findings so that all caregivers know when they are working with a patient at high risk for heel pressure ulcers.
Prevention

After assessing a patient and determining that he or she is at risk for pressure ulcer development, prevention becomes the next primary concern. We recommend the following steps to help prevent the development of heel pressure ulcers:

• Ensure that the heels are free of the bed's surface
• Devices used to protect the heels should elevate them completely and distribute weight along the calf without putting excess pressure on the Achilles tendon
• If the patient is highly alert and cooperative, pillows can be used for short periods of time to elevate the heels
• Inspect the patient's heels regularly
• Turn the patient regularly to make sure no single area is constantly under pressure

Staging and Treatment

Treatment of heel pressure ulcers depends on the stage of the pressure ulcer. According to the NPUAP staging guidelines, there are four possible pressure ulcer stages.

Stage I: A stage I pressure ulcer can look like a slightly red discolored area of the skin. In a person of darker skin pigment, it may be almost impossible to identify a stage I pressure ulcer if the patient does not have high sensory perception. This is why assessment of sensory acuity is so important. This type of wound is often described as a non-blanchable erythema.

Stage II: A stage II pressure ulcer can, at times, look like a ruptured blister. The area will be red and the sore will be shallow.

Stage III: A stage III pressure ulcer involves an increased amount of tissue death, and some layers of fat may be visible. Bones and tendons are not visible at this stage.

Stage IV: This is the most severe kind of pressure ulcer. The wound may go all the way to the bone and tendon, and eschar and slough may be present.
**Deep Tissue Injury** Suspected DTI was added to the NPUAP Staging Guidelines in 2007. Sometimes referred to as a closed pressure ulcer, these types of skin injuries are difficult to see visually, so the skin must be examined to see if it is warm, mushy or boggy.

**Unstageable Pressure Ulcers:** Pressure ulcers that cannot be measured until excess eschar and/or slough is removed.

**Treatment of Stage I or II Heel Pressure Ulcers**

If a patient develops a stage I or II heel pressure ulcer, rapid and efficient treatment can help prevent a much more serious condition. If a patient is alert and cooperative, a pillow that can “float” the heels may be enough to create a short-term treatment plan. If the patient is less alert or not cooperative, a pressure eliminating device like Heelift® Suspension Boot should be used. It is essential to avoid the use of devices that have metal or sharp edges, as these can harm the patient's other leg.

**Treatment of Stage III or IV Heel Pressure Ulcers**

For patients suffering from a more severe pressure ulcer, elevation on a pillow will not suffice in the treatment of the condition. Because of the time required to heal, a device that completely offloads the ulcer area while also preventing foot drop is necessary. Debridement, monitoring and offloading are the keys to treating this type of wound.

**Deep Tissue Injuries and Unstageable Pressure Ulcers**

For Deep Tissue Injury, offloading the heel and keeping the wound area moist will help with healing. The affected area should also be monitored to see if infection forms. Even with treatment, a DTI may progress to a higher stage ulcer before it begins to heal. The most essential part of treating an unstageable heel pressure ulcer is to remove the slough and eschar so that the wound can be properly assessed. Debridement and offloading are essential. Once the wound can be properly assessed, the wound can be treated based on its staging.

Another integral part of treatment is constant monitoring. Whether using Heelift® Suspension Boot or another elevation device, it is necessary to perform regular checks of the patient's skin, edema levels, and pressure on other parts of the leg, including the Achilles tendon. A small handheld mirror can be used to look at the patient's heel while the foot is still in the device. This creates less discomfort for the patient and allows for more efficient checking of at-risk patients.
Choosing a Heel Offloading Device

There are four primary types of heel elevators that can be used as part of a Heel Pressure Ulcer Protocol. Regardless of what your facility chooses, it is essential that a proper device, not pillows, is used to elevate the heel for patients who are at high risk, immobile for long periods of time, or who are suffering from a stage III or IV heel pressure ulcer.

**Foam boots** Foam boots like Heelift® Suspension Boot maintain a firm fit, are highly customizable, and offer good ventilation. In the case of Heelift specifically, cleaning is also possible and convenient, though this is not always true of foam products.

**Pillow boots** Pillow boots support the heel through padding and tubing stuffed with infill material. These types of devices are easy to clean and can move easily across bed sheets but they do not repel moisture easily and can be difficult to fit to a patient.

**Inflatable boots** This category of elevation devices uses either inflated polyethylene or an inflated pad. Inflatable boots are easy to clean, move easily across bedclothes, and offer good ventilation, but they require measurements for fitting, and they often deflate.

**Gel-Filled boots** These products elevate the heel through a gel or water-filled polyethylene structure or pad. These heel elevators provide excellent heat control and are easy to clean, but they do not flex, and they can lose fit based on fluid build-up.

Remember, part of the treatment part of the heel pressure ulcer protocol is monitoring. If your facility uses Heelift Suspension Boot or another offloading product, we suggest that at the end of a shift, nurses remove the boot entirely in order to examine the foot fully and allow for ventilation. At the beginning of the new shift, nurses can reassess the patient and reapply the straps. Regardless of the product, consistent monitoring of patients and the recording of that information is an essential part of both prevention and treatment.

For more clinical articles on preventing and treating heel pressure ulcers, or to learn more about the Heelift Suspension Boot, the convenient solution, please visit [www.heelift.com](http://www.heelift.com).