Discover New Opportunities To Improve Home Health And Hospice
Patients with venous ulcers can be challenging to manage in the home care setting. Despite the general perception that pressure ulcers are the most common chronic wounds, lower extremity venous ulcers are actually more widespread. Venous disease affects 5% to 8% of the global population, with up to 3% of all adults over age 60 suffering from a venous leg ulcer. These ulcers account for 70% to 90% of all lower extremity wounds with an annual incidence rate of 2.5 million, making them the most common chronic wound. In turn, this costs an estimated 2.5 to 3.5 billion dollars annually in the United States and the cost of treatment to homecare as high as $27,500/ulcer.

Venous hypertension is the hallmark sign of venous disease and can be caused by a variety of factors such as incompetent valves, calf muscle pump failure, immobility, or hereditary conditions affecting the veins of the lower legs. The increased intraluminal pressure in the veins and capillaries leads to increased capillary permeability allowing blood, inflammatory cytokines, and protein rich plasma into the tissues. Venous hypertension eventually results in permanent damage to the veins of the lower leg and the disease process chronic venous insufficiency, or venous stasis disease. Studies have shown that on average, a patient will develop a venous ulcer within 13 years after onset of the disease.

Risk factors for the development of chronic venous insufficiency include history of vascular surgery, varicose veins, DVT, thrombophilia, obesity, multiple pregnancies, severe trauma to the lower leg, smoking, advanced age, calf muscle pump failure, and occupations requiring long periods of sitting or standing, such as healthcare professionals and long-haul truck drivers.

Venous Ulcer disease can affect many components of a homecare agency’s core business, such as HHCAHPS, readmission rates, clinical performance, patient outcomes, and overall financial episodic health. Comparing clinical data is one thing; comparing clinical data with a financial aspect is completely different. Today, the homecare industry must look for vendors to be resources and experts in helping manage the most difficult of wounds, especially as length of stay trends within the acute care and long term care segments is declining. The use of reporting tools, such as SmartSupply™ by Strategic Healthcare Programs (SHP), helps to review both clinical and supply cost data which can reveal important facts on wound cost and subsequent clinical guidance in wound eradication.

See page 8 for details of a recent patient case study of an agency that purchases supplies from Medline Industries, identified with the assistance of SHP in a SmartSupply™ report.

The data analytics that point to areas for clinical improvement typically can lead to financial improvement as well. In this example, supply spend was nearly 40% below NRS reimbursement. This is a great number. However, could the patient have been better managed to avoid wound infection and deteriorating status? Should supply spend have been more to reduce clinician visits? Would more advanced dressings promote better healing and thus potentially avoid infection and emergent care? The agency caring for the above patient has an excellent record for very low emergent care cases resulting from deteriorating wound status, which takes proper training and dedication to quality. As we understand more about venous ulcer disease and other difficult wound treatment, it is imperative for home health clinicians to realize the disease process and how to best manage all facets of care.
Management in the Home

Management of a patient with venous leg ulcers in their home includes comprehensive assessment and treatment.

- A patient assessment reveals the causative and contributing factors, clinical signs and symptoms, in order to differentiate the underlying etiology of the ulcer.
- A physical examination of the lower extremities should be performed to assess skin condition, temperature, color, sensation, capillary refill, edema and the presence or absence of pedal pulses. However, studies show the presence or absence of a pulse is not a reliable indicator to determine adequate perfusion or the presence of peripheral arterial disease.

- A vascular assessment should be conducted to verify the patient’s perfusion status, as up to 25% of patients will have some level of coexisting arterial insufficiency. An ankle-brachial index (ABI) is a simple, non-invasive diagnostic test that can be performed in the home and has been shown to reliably predict the presence or absence of peripheral arterial disease. ABIs should be performed and documented on all patients with venous leg ulcers before initiating compression therapy. An ABI of 0.8 to 1.3 indicates adequate arterial blood flow and is usually considered safe for therapeutic compression. An ABI below 0.8 indicates some level of arterial insufficiency and requires further vascular assessment.
- A comprehensive wound assessment should be routinely performed and findings documented to describe the location, size, wound edges, tissue type, and amount in the wound bed, characteristics and volume of exudate, condition of periwound skin, odor and signs of infection.

- Treatment of a patient with a venous leg ulcer relies on addressing the underlying disease process with a three step approach: compression, ambulation, and limb elevation. Compression is the cornerstone of treatment because consistent use of compression speeds healing and can prevent or prolong the return of venous ulcers. There is a variety of compression bandaging systems available. Those providing graduated compression of 35-40mmHg (beginning at the ankle) are the most effective.

Selecting an Appropriate Compression Bandage System

Selecting an appropriate compression bandaging system is based on the patient’s perfusion status, tolerance of compression, comfort, and mobility. The use of an Unna boot, an inelastic bandage designed to support the calf muscle during ambulation, is commonly used in home care. However, it may not provide effective therapeutic compression for sedentary patients. For sedentary patients, an elastic compression bandaging system may deliver better management of chronic venous insufficiency and lead to improved healing outcomes.

In addition, newer, two layer bandaging systems offer many advantages over traditional multilayer systems. Two layer systems are cooler, more comfortable, and provide a lower, less bulky profile. Moreover, they decrease nursing application time and promote more consistent application of therapeutic compression. The ability to comfortably wear a shoe is a substantial advantage, enabling more effective ambulation and exercise of the calf muscle pump.

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Wound Management

Management of a venous leg ulcer presents unique challenges such as preventing and handling Periwound maceration and skin breakdown. These are typically associated with the high levels of exudate and destructive matrix metalloproteinases (MMPs). Periwound maceration has been shown to delay healing, but the use of a cyanoacrylate liquid skin protectant may prevent its occurrence and facilitate faster wound closure. Super absorbent polymer dressings and rapid wicking fiber products that may be used under compression are essential tools in any formulary for the effective management of exudate and periwound skin damage. A small, single center study showed Chitosan based dressings also reduce Periwound maceration and facilitate increased healing compared to a CMC dressing in patients with bilateral venous leg ulcers. Medical grade Manuka honey dressings may also be useful in promoting autolytic debridement of slough in venous ulcers and can be utilized under compression bandages.

Patient Education

Patient and caregiver education is arguably the most important component of managing a venous leg ulcer. To promote acceptance and adherence to the care plan, patient education regarding the disease process of chronic venous insufficiency is essential. Patients should be instructed on the importance of compression bandages to promote wound healing and the use of ongoing, life-long compression to prevent edema and venous ulcer recurrence. It is important to understand that Antiembolism stockings are designed to prevent venous thromboembolism (VTE), and should not be relied on for the management of edema associated with chronic venous insufficiency. Patients should be encouraged to participate in physical activity as tolerated, to utilize their calf muscle pump, and to elevate their legs above the level of the heart several times a day. These activities facilitate the reduction of venous congestion and hypertension.

We know that venous ulcers heal slowly, recurring in up to 76% of patients’. Subsequent pain and significant morbidity accompany these wounds, adversely affecting health-related quality of life. A sound understanding of the underlying disease process, systemic factors affecting healing, and evidence-based treatment is essential in achieving optimal clinical and financial outcomes when managing a patient with venous ulcers in the home. The future of wound care treatment will be more developed around the disease process, and following various guidelines that best meet the patient’s goals. One of the biggest challenges Medline sees in its understanding of countless patient records is realizing that the top 10% of patient census typically accounts for 30-50% of overall supply costs for all patients. How can we impact those patients? What wound diagnoses comprise that population? And what of the next 10% of the overall patient census – how can we collaborate clinically and with strong data to reduces the overall cost per episode, inclusive of supply costs, nurse visits, acute care admissions, and overall labor associated with the patient care under the episode?

Resources: