PART 2
VENOUS LEG ULCER PREVENTION AND MANAGEMENT:
AN INTEGRATED APPROACH
VENOUS LEG ULCER PREVENTION AND MANAGEMENT: AN INTEGRATED APPROACH

INTRODUCTION

Venous leg ulcers (VLUs) affect a large and growing number of individuals, particularly older adults. With over 80 million Americans suffering from vein disease, it is critical that health care professionals take steps to improve patients’ outcomes and slow or reverse the progression of the disease. Following best practice treatment guidelines can help prevent VLUs and reduce complications associated with VLU development. Increasingly, this means taking an integrated approach that combines treatment of the underlying cause of VLUs and wound management.
Venous Leg Ulcer Prevention and Management: An Integrated Approach
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The High Costs of VLUs
VLUs have a major impact on health care costs and patients’ lives. VLU care costs an estimated $3 billion annually, thus making it a significant part of overall health care costs.4–6 By following the best practices described here, health care professionals can help control these costs and improve patients’ quality of life.

Taking an Integrated Approach
Using an integrated approach to VLU treatment and prevention is critical. Because VLUs are a direct result of chronic venous insufficiency (CVI), they can be prevented by slowing the progression of the disease. This is important because VLUs have a very high rate of recurrence.2,3,7 Effective wound management is also critical to ensuring that wounds heal rapidly and completely. Using wound care techniques that control exudate, minimize bacterial load, and create an optimal healing environment can help wounds heal more quickly and with a lower chance of complication, such as infection. This approach aids in reducing the costs of VLUs and improving outcomes for patients.2,3,7

Reducing the Cost and Impact of VLUs Through Prevention
The costs of VLUs are high and rising. With the growing number of Americans with vein disease, VLUs are an increasingly common outcome. Because the wounds require substantial attention from health care professionals over their long duration to prevent complications and ensure healing, they are costly to treat, approximately $50,967. Recurrence is also not rare in patients who have previously had VLUs. Within three to five years of a prior VLU, 76% of patients will experience recurrence.2,3,7 This means that many patients will have to incur the costs of treatment multiple times throughout their lives.

VLUs can also result in serious complications for patients. They are painful, often limiting patient mobility and seriously detracting from quality of life. Infections can also lead to sepsis, amputation, or even death. These complications further contribute to the costs of VLU and make it a dangerous condition.2,3

An Integrated Approach Is Key
To improve outcomes and reduce costs, health care professionals should follow modern best practices for treatment and prevention. A proactive approach using synergistic therapies can lower VLU incidence rates and the chance of recurrence. Using validated classification systems such as CEAP (Clinical, Etiology, Anatomic, and Pathophysiology) and other validated tools such as the compression therapy algorithm of the Wound, Ostomy and Continence Nurses Society™ (WOCN®) (http://vlu.wocn.org/#home) to guide therapy selections will help clinicians in determining treatment goals.

CEAP – The CEAP classification system can help health care professionals determine the stage of a patient’s CVI progression. This is important in developing an effective treatment plan.2

**Chronic Venous Insufficiency: Diagnosis**
International Consensus CEAP

<table>
<thead>
<tr>
<th>CoS</th>
<th>Heavy legs, pains in the legs, pruritus... But no clinical or palpable signs of venous disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>Telangiectasia or reticular veins</td>
</tr>
<tr>
<td>C2</td>
<td>Visible and palpable varicose veins</td>
</tr>
<tr>
<td>C3</td>
<td>Venous oedema (without trophic changes)</td>
</tr>
<tr>
<td>C4</td>
<td>Trophic changes of venous origin: atrophie blanche, pigmented purpuric dermatitis, varicose eczema</td>
</tr>
<tr>
<td>C5</td>
<td>heals ulcer with trophic changes</td>
</tr>
<tr>
<td>C6</td>
<td>Presence of one or more active venous leg ulcers, often accompanied by trophic changes</td>
</tr>
</tbody>
</table>
CEAP CLASSIFICATION SYSTEM

C=Clinical picture  E=Etiology  A=Anatomy  P=Pathophysiology

C0S
Patients may be experiencing possible symptoms of CVI such as a heavy sensation in the legs, pain, and pruritus. However, at this stage there are no clinical signs of CVI. Health care professionals should regularly check at-risk patients for signs of development.

C1 Telangiectasia or reticular veins may be present

C2 Varicose veins

C3 Edema

C4a Pigmentation and/or eczema

C4b Lipodermatosclerosis and/or atrophie blanche

C5 Healed venous ulcer

C6 Active venous ulcer

WOCN® Algorithm – The WOCN® algorithm for VLUs helps health care professionals determine how to apply compression in patients with CVI to prevent and manage VLUs. Using compression therapy according to this algorithm can slow or reverse the progression of CVI, thereby helping to lower the risk of VLUs and improve patients’ quality of life.

THE IMPORTANT ROLE OF COMPRESSION IN MANAGING VLUs

Compression therapy can help prevent VLUs and reduce the risk of complications. By treating the underlying causes of CVI, regular compression can increase blood flow in the leg while reducing edema. This approach, combined with best practice wound management, can minimize the recurrence of VLUs and optimize clinical outcomes.

Why Compression Therapy Helps Treat VLUs

To understand why compression therapy is an effective treatment and preventive measure for VLUs, it is important to understand the causes of these wounds. VLUs are the result of CVI. The condition stems from weak or damaged valves controlling the flow of blood. This can lead to retrograde flow and elevated venous pressure, causing discomfort, pain, eczema, and ultimately VLUs. Compression therapy works to increase venous return and reduce venous pressure. This treats the underlying cause of VLUs, which can help lower the risk of recurrence and prevent patients with CVI from developing more serious complications.

Best Practices for Compression Therapy

CVI and resulting VLUs are treated primarily by improving venous return through the sustained application of pressure. Although compression therapy is an important component of the treatment and management of VLUs, it requires precise application according to the needs of the patient to maximize its effectiveness. Using the appropriate level of compression according to prescribed use after a thorough assessment and diagnosis by a health care professional is important to ensuring effectiveness.

Assessing the Effects of Compression – The Ankle Brachial Index (ABI) can be used to measure the effect of compression on CVI. It is determined by dividing the pressure taken at the ankle by the reading taken at the arm. A result lower than 0.6 indicates that the compression therapy is not present or ineffective; between 0.6 and 0.8 that there is reduced compression applied; and above 0.8 that the compression therapy is effectively improving blood flow.
Optimal Compression – For most VLUs, 40mmHg at the ankle graduating to 15 to 20 mmHg below the knee is optimal.²

Treatment Time – In general, pressure should be maintained for seven days. This will provide optimal time for the effects of CVI to be reduced.²

Therapy Options – Depending on the location and needs of the patient, pressure can be applied in numerous ways. Four-layer compression, two-layer compression, short stretch bandages, wraps, and maintenance with compression stockings are all effective means of implementing compression therapy, depending on the progression of the CVI and the patient’s needs.²
BSN MEDICAL INTEGRATED THERAPY SOLUTIONS

BSN Medical offers an integrated approach to CVI and VLU treatment. This system helps existing wounds heal by removing exudate and bacteria and rebuilding damaged tissue while working to prevent future VLUs by controlling edema with compression therapy and JOBST compression legwear. This combined approach can help health care professionals more effectively treat VLUs and prevent recurrence.2,3,7

In the following sections, the Reduce and Prevent steps of the integrated approach will be explained. For information on the Remove and Rebuild stages, please see the previous white paper. The following sections have the product names hyperlinked in blue to the application videos.

Reduce – Edema can be painful and lead to VLUs. BSN Medical’s compression therapy solutions can help reduce edema in patients and minimize the risk of complication. Treatment options include four-, three-, and two-layer systems that offer easy applications, such as JOBST Comprifore for multilayer compression systems and JOBST Comprifore2 or UlcerCARE™ for two-layer compression.2,3,7 Additionally, JOBST Comprifore2 provides a two-layer system with an innovative visual indicator that offers effective application of compression level in every application. JOBST offers FarrowWrap Velcro wrap systems as easy-to-don alternatives to those who cannot self-bandage, need an adaptable compression system as their edema reduces, or require compression that works well with wound dressings. JOBST FarrowWrap Basic provides quality compression in a value fabric with double-side Velcro® bands. JOBST FarrowWrap 4000 features an inner sleeve and 4-band design that is anatomically contoured to prevent gapping. Both JOBST FarrowWrap Basic and 4000 are Medicare reimbursable under A6545 with an open venous stasis ulcer.

Prevent – Improving blood flow is key to reducing the risk of VLUs. BSN’s compression therapy solutions can help minimize the effects of CVI and prevent recurrence. Innovations such as JOBST’s SoftFit technology increase patients’ compliance with compression therapy by providing a comfortable and secure grip to the top band so stockings do not fall down, a major complaint among compression users. JOBST also offers a wide variety of fabrics styles and sizes to fit a broad range of patients’ needs. Patients who adhere to compression therapy using BSN Medical systems are nine times less likely to experience a recurrence; approximately 70% of those not using compression hosiery experience VLU recurrence after six months compared with only 26% of those who do use compression hosiery.5 The comfortable design of the integrated solution also helps to increase patients’ satisfaction and leads to improved patients’ compliance, thus helping to lower the risk of recurrence.2,3,7

CONCLUSION

A patient who has VLUs must always remain vigilant to prevent recurrence. This makes it critical that health care professionals take an integrated approach to VLU management focused on prevention. This approach will help support a reduction in VLU development and recurrence.

Using a clinical classification system such as CEAP and a validated treatment algorithm combined with BSN Medical integrated products can help health care professionals provide comprehensive treatment and management of VLUs. This approach enhances outcomes by combining therapies and choosing patient-centered devices to support a reduction in VLUs. Clinical data show that the combination of BSN’s compression and Cutimed wound care products significantly improved 85% of VLUs and completely healed 53% of all cases within 12 weeks.8 By utilizing BSN’s integrated system, health care professionals can dramatically reduce VLU costs and optimize treatment results.
REFERENCES


