THE VERSATILE USE OF A NOVEL DUAL COMPRESSION SYSTEM (DCS)* IN THE MANAGEMENT OF LOWER LIMB EDEMA ORIGINATING FROM SEVERAL COMMON PATHOPHYSIOLOGY

LOUIS E PILATI, MD
SYCAMORE WOUND CENTER, DAYTON, OHIO

INTRODUCTION

The application of multi-layer compression therapy is the gold standard for the management of patients with venous leg ulcers (VLU). VLU and lower extremity edema causes a cascade of acute cellular inflammatory reaction of different cells altering the cellular matrix leading to a delay in healing. If left untreated this causes an increased drainage and further wound dehiscence, worsening pain, potential for infection and potential need for further surgery or amputation.

DCS in an experience clinician can take the knowledge of treatment of VLU and apply it to other conditions that have edema as part of their underlying condition.

We know by experience treat clinicians use multilayer compression wraps to treat other wounds compromised by lower extremity edema. To date this data has not been quantified to look at all the potential use of a novel dual compression system (DCS).

In our clinic we use compression in the treatment of wounds diabetic foot ulcer who not only need pressure relief but often have lower extremity edema that can compromises healing if not reduced. Lower extremity orthopedic injuries related to trauma or post-surgical swelling are also conditions that can lead to edema and delayed healing and may potentiate further dehiscence if left untreated.

METHOD

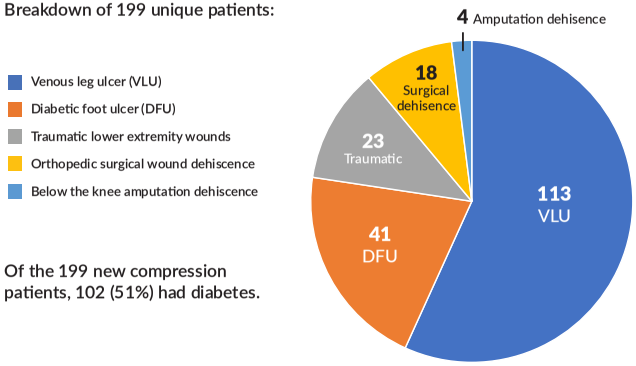
Over a 30-day period each individual unique patient that required a Novel dual compression wrap had their primary diagnosis recorded, and any contributing secondary diagnosis. Patients where only recorded one time in a 30-day period.

Patient medical record number were used to track individual patients and assure no patient were recoded twice. The diagnosis was taken from the medical record from initial diagnosis they were given at their consult, no diagnosis codes where changes during the study period.

RESULTS

1,090 patient visits occurred from 1 July – 31 July representing 334 unique patients. 199 (60%) of those 334 unique patients required compression therapy.

Breakdown of 199 unique patients:



Of the 199 new compression patients, 102 (51%) had diabetes.

CONCLUSION

This data shows that shows that an overwhelming number of patients 113 representing 56 percent of the patients where veinous leg ulcer (VLU). This is consistent with the literature that multilayer compression wraps are the gold standard for the treatment of VLU. This study also points out that there are other conditions that compression therapy can be used for. An underutilized and often not realized is the use of multilayer compression wrap in diabetic foot ulcer patients. This was the next highest group at 41 patients or 34 percent where diabetic foot ulcer patients. Often not only do they have an ulcer that compromises their foot but also associated edema that needs to be controlled especially if using under a total contact cast.

The same guiding principles of apply a DCS not only applies to the treatment of VLU but can be applied to other lower extremity wounds that have associated edema. Because of the protonation make up of interstitial fluid a vast inflammatory reaction that takes place leading to complex reaction untimely lending to further edema, tissue leakage, skin breakdown and fibrosis. This sets up an extremally difficult wound to heal unless both edema and exudate are controlled. Without edema reduction and lymphatic drainage the wound bed will remain fibrotic a difficult to heal.

This DCS system's ability to provide accurate therapeutic levels of compression already has been described in literature, leading to evidence-based edema reduction of VLU. We have found this bandage system, when applied the same way as with VLU would be as equally successful to manage other related other wounds commonly compromised by edema.