# The Use of Fuzzy Wale Elastic Compression Stockinet (FWECS)* for Initial Stages of Refractory Venous Leg Ulcers

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## Problem

Patients who present with refractory venous leg ulcers require compression to treat the underlying pathology. Many patients cannot tolerate a multilayer compression system (MCS) due to symptoms of stasis dermatitis including: itching, burning, and pain.

FWECS is a low grade compression stocking that decreases the symptoms of stasis dermatitis permitting the patient to transition to a MCS. The stockinet leaves “cornrow” indentions in the skin. This allows for improved lymphatic drainage by not compressing all dermal lymphatic channels simultaneously.

Patients are able to easily don and remove the stockinet without requiring significant hand strength increasing compliance.

## Methods

Three patients were diagnosed with refractory venous leg ulcers and participated in this observational study. Calf circumference measurements, subjective pain level, and symptoms of stasis dermatitis were monitored before and after the use of FWECS for one week. Patients were instructed to remove the stockinet only for showering and dressing changes. Also, patients were told to elevate legs, increase walking, and flex ankles.

The calf of the patient was measured before and after the initiation of FWECS. Circumferential measurements were taken 15cm proximal to the medial malleolus.

Photos were taken of the leg with the ulcer prior to initiating the use of FWECS, while being donned, and after the patient was compliant with wearing the FWECS for one week.

After FWECS were tolerated for 1-2 weeks and adequate perfusion studies were obtained, the patient was transitioned to a higher grade of multi layer compression wraps.

Patient A: 75 yo F with PMH of DMT2, ESRD on dialysis, HTN, HTN, and peripheral neuropathy, and PAD s/p revascularization with ulcer had been present for 11 months

Outcome: After transitioning to a MCS, patient was healed in 11 weeks.

Patient B: 69yo F with PMH of DM, HTN, CHF, Charcot foot deformity and ESRD on hemodialysis who presented with ulcer on right leg while being treated for a diabetic foot ulcer on the left foot.

Outcome: Patient expired from heart comorbidities prior to healing the right venous leg ulcer.

Patient C: 91yo M with PMH HTN, HLD, CHF, CAD, AAA, Afib, COPD, and CKD who presented with ulcer that had been present for several months.

Outcome: After transitioning to a MCS and appropriate dressings were applied weekly, patient was healed in 20 weeks.

**The Difference in Leg Circumference before and after the use of FWECS**

| | Before | After | Net Difference |
|---|---|---|---|
| Patient 1 | 28.4 cm | 26.5 cm | - 1.9 cm |
| Patient 2 | 29.5 cm | 27.4 cm | - 2.1 cm |
| Patient 3 | 37.7 cm | 33.8 cm | - 3.9 cm |

**Not all of these measurements correlate with patients photographed above.

**The Difference in Pain Scale before and after the use of FWECS**

| | Before | After | Net Difference |
|---|---|---|---|
| Patient A | 0/10 | 0/10 | 0 |
| Patient B | 5/10 | 0/10 | - 5 |
| Patient C | 5/10 | 0/10 | - 5 |

## Results

After donning the stockinet for one week:

- Visible “cornrows” in the skin of the treated leg.
- Decrease in calf circumference of the treated leg.
- Decrease in subjective pain level.
- Decrease of symptoms of stasis dermatitis.

## Conclusion

FEWCS is associated with increased compliance due to its ease of use and ability to help decrease pain and symptoms of stasis dermatitis. It is a safe initial treatment for patients with venous ulcers who are awaiting vascular studies or who are unable to tolerate MCS.

* EdemaWear (Compression Dynamics, LLC)