

Flexitouch® Advanced Pneumatic Compression Device Reduces Phlebolymphe­dema Healthcare Costs Compared to Other Treatment Modalities

Original Article: Health and Economic Benefits of Advanced Pneumatic Compression Devices in Patients with Phlebolymphe­dema
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OBJECTIVE

To evaluate the impact of the Flexitouch (FLX) advanced pneumatic compression device (APCD) on phlebolymphe­dema-related medical resource utilization (MRU) and cost compared to other pneumatic compression modalities and to conservative therapy (CONS) in a representative U.S. phlebolymphe­dema patient population.

METHODS

- Investigators conducted a longitudinal matched case-control analysis of de-identified private insurance claims in a dataset of 165 million people to identify patients meeting the following criteria:
 - Diagnosis of lymphedema (primary or secondary)
 - Primary or secondary diagnosis for chronic venous insufficiency (CVI)
 - Continuous health plan enrollment for at least 18 months, with mean follow up by group varying from 1.62 years to 1.9 years
 - At least one claim for (CONS)
- Prior to case matching 1,065 patients met these criteria. 860 (80.8%) received CONS alone. All other groups

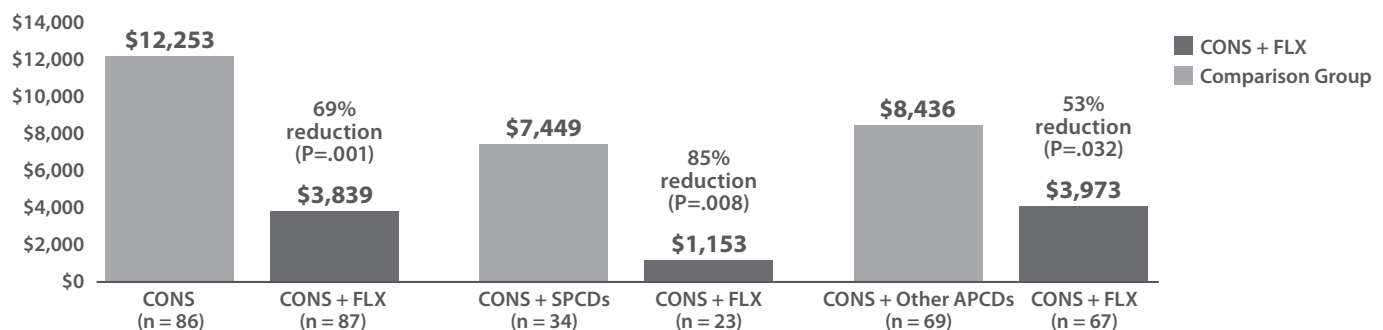
received CONS in addition to the PCD treatment modality.

- After case-matching, the study compared these groups: 86 patients CONS (87 on FLX), 34 on Simple Pneumatic Compression Devices (SPCDs) (23 on FLX), and 69 on other APCDs (67 on FLX).
- Direct phlebolymphe­dema- and sequelae-related MRU and healthcare costs were analyzed.

RESULTS

- Flexitouch use was associated with statistically significant reductions in phlebolymphe­dema- and sequelae-related medical resource utilization (MRU) and costs compared to CONS, SPCDs, and other APCDs.
- FLX demonstrated a 69% reduction vs. CONS alone in per patient per year (PPPY) total costs, driven by 82% reduction in inpatient hospital costs and 55% reduction in outpatient hospital costs.
 - FLX demonstrated a 85% reduction vs. SPCDs in PPPY total costs, driven by 93% reduction in inpatient hospital costs and 84% reduction in outpatient hospital costs.

Figure.1: Total Phlebolymphe­dema- and Sequelae-Related Costs (PPPY)



RESULTS *continued*

- FLX demonstrated a 53% reduction vs. other APCDs in PPPY total costs, driven by 57% reduction in outpatient hospital costs and 58% reduction in other outpatient-related costs.
 - Notably, FLX demonstrated a 50% lower rate of cellulitis vs. other APCDs (22.4% vs 44.9%, p=.02).

DISCUSSION

Though the direct costs of phlebolymphe­dema are not well documented^{7,8,9} the disease is understood to be common and expensive. This study demonstrates that FLX use reduced PPPY costs by 69% versus CONS alone, 85% versus SPCDs and 53% versus other APCDs.

Earlier diagnosis and more effective phlebolymphe­dema treatment is urgently needed to improve patient quality of life and reduce healthcare costs.

KEY POINTS

- Venous hypertension and subsequent lymphatic overload are the causes of phlebolymphe­dema.
- Early and effective treatment of phlebolymphe­dema is necessary to prevent complications and reduce overall cost of care.

- Conservative therapy plus Flexitouch use was associated with major, statically significant reductions in per-patient per-year costs compared to use of conservative therapy alone (69%), conservative therapy plus simple pneumatic compression devices (85%) and conservative therapy plus other advanced pneumatic compression devices (53%).
- Flexitouch-related cost reductions were driven by reductions in outpatient and inpatient hospital costs, and other outpatient related costs.
- The data strongly support Flexitouch use with conservative treatment in patients with phlebolymphe­dema compared with conservative therapy alone or simple or other advanced pneumatic compression devices.

CONCLUSION

Phlebolymphe­dema is a widespread, chronic and underdiagnosed disease associated with high MRU and cost. Flexitouch system use significantly reduces phlebolymphe­dema- and sequelae-related costs in comparison to CONS, SPCDs, and other APCDs.

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Table 1: Differences in Phlebolymphe­dema- and Sequelae-related MRU and Costs

| | Comparison Group #1 CONS + FLX vs. CONS | | | Comparison Group #2 CONS + FLX vs. CONS + SPCDS | | | Comparison Group #3 CONS + FLX vs. CONS + Other APCDS | | |
|---------------------------------------|--|------------------|--------------|--|--------------------------|--------------|--|-----------------------------------|--------------|
| | CONS + FLX (n = 87) | CONS (n = 86) | P-value | CONS + FLX (n = 23) | CONS + SPCDS (n = 34) | P-value | CONS + FLX (n = 67) | CONS + Other APCDs (n = 69) | P-value |
| Total Costs (PPPY) | \$3,839 | \$12,253 | 0.001 | \$1,153 | \$7,449 | 0.008 | \$3,973 | \$8,436 | 0.032 |
| Inpatient Hospital Costs | \$1,560 | \$8,715 | 0.003 | \$297 | \$4,215 | 0.002 | \$1,468 | \$4,186 | 0.287 |
| Outpatient Hospital Costs | \$1,129 | \$2,534 | 0.027 | \$368 | \$2,347 | 0.02 | \$1,320 | \$3,062 | 0.041 |
| Other Outpatient Related Costs | \$1,090 | \$2,453 | 0.029 | \$353 | \$2,313 | 0.023 | \$1,283 | \$3,026 | 0.038 |

Costs reported as per patient per year phlebolymphe­dema- and sequelae related costs, excluding all PCD device and accessory costs.

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