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.
RESULTS continued

• FLX demonstrated a 53% reduction vs. other APCDs in PYYY 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 documented7–9, the disease is understood to be common and expensive. This study demonstrates that FLX use reduced PYYY 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.

To view the full text of this article visit: https://www.jvasc Surg.org/article/S0741-5214(18)30983-2/pdf

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

<table>
<thead>
<tr>
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<th>Comparison Group #1</th>
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<tbody>
<tr>
<td></td>
<td>CONS + FLX (n = 87)</td>
<td>CONS + FLX (n = 23)</td>
<td>CONS + FLX (n = 67)</td>
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<td>CONS (n = 86)</td>
<td>CONS + SPCDs (n = 34)</td>
<td>CONS + Other APCDs (n = 69)</td>
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<td>Total Costs (PYYY)</td>
<td>$3,839</td>
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<td>Inpatient Hospital Costs</td>
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Costs reported as per patient per year phlebolymphedema- and sequelae related costs, excluding all PCD device and accessory costs.

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References