The Effect of Compression for the Treatment of Lymphedema

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Purpose

Is the use of compression an efficacious treatment method for reducing lymphedema?

Background

Lymphedema is an incurable disease resulting from an accumulation of excessive fluid in the interstitial space of the body. In most cases the lymphatic system has been compromised and fluid does not drain properly, commonly, because of surgical removal of lymph nodes as indicated when treating breast cancer or through more insidious causes such as infection or genetic mutation. Left untreated, lymphedema can result in pain, infection, decreased function, and an overall reduction in quality of life. For these reasons effective treatment is critical for patients living with lymphedema. Compression is one of the most effective modalities that applies pressure to an extremity or to a specific area on the body to primarily reduce swelling. Specifically, pneumatic compression therapy can modulate compression by sequentially arranging an area of the body to create a pump to assist in circulation of stagnant fluid toward the trunk. The purpose of this analysis is to determine the efficacy of compression therapy in the treatment of lymphedema.

Methods

Mestre S et al. 1
To assess the benefit of an advanced pneumatic compression device (APCD) in reducing volume and to evaluate satisfaction and patient outcomes.

Figure 1. Data from Mestre S, Hinch AT, Taffe EC. 
1 Percent decrease in lymphedema. n represents the number of patients/limbs correlating to the percentage indicated at the end of each data set.

Figure 2. Data from Blumberg SN et al. 
Lymphedema change in patient population. Leg and calf percentages both represent percent change in edema over a 3 month period.

Results

According to the research reviewed, compression treatment is an efficacious treatment method for the management of lymphedema. The use of advanced pneumatic compression devices (APCDs) and the increased daily use of compression devices (nighttime use), led to greater improvements in reducing lymphedema in subjects. APCDs seemed to assist in the reduction of upper and lower extremity edema indiscriminately. Overall, patients with compression treatment obtained a better quality of life and a reduction of limb swelling.

References


Figure 1.2 Data from Blumberg SN et al.
Lymphedema change in patient population. Leg and calf percentages both represent percent change in edema over a 3 month period.

Figure 2.1 Data from Mestre S et al.
Functional symptoms; Night time PCD usage (Group 1) vs. day time use only PCD usage (Group 2)