



CHRONIC / ACUTE CONDITIONS

Lymphedema and Exercise (Pt. 1)

Jeffrey Tucker, DC, DACRB

WHAT YOU NEED TO KNOW

- Lymphedema can be managed with chiropractic treatments aimed at reducing swelling and preventing complications.
- Treatments may include manipulation, manual and machine lymph drainage, exercise, skin care, and compression garments.
- An important study suggested that with proper guidance and precautions, strength training could be a beneficial component of lymphedema management.

Lymphedema is a chronic condition characterized by the accumulation of protein-rich lymph fluid and toxins in the body's tissues, leading to swelling, most commonly in the arms or legs, but it can also occur in other parts of the body such as the chest wall, abdomen, neck, and genitals. The swelling arises due to a compromised lymphatic system, which is responsible for draining this fluid and is a critical component of the immune system.^{2-3, 6, 9}

The lymphatic system includes lymph nodes, lymph vessels, and organs such as the spleen, thymus, and tonsils. Lymphedema can be classified as either primary or secondary. *Primary lymphedema* is typically a congenital or genetic condition due to malformations of the lymphatic system. *Secondary lymphedema*, which is more common, results from damage to or obstruction of the lymphatic system due to various causes such as cancer treatments (surgery and radiation), infections, trauma, or other medical conditions.^{1-2, 4, 6, 9}

Key Symptoms to Watch For

Symptoms of lymphedema include swelling of part or all of an arm or leg, including fingers or toes, a feeling of heaviness, pressure, or tightness, restricted range of motion, recurring infections, and skin changes such as hardening or thickening. In severe cases, the affected limb can become

significantly larger than the other, and the skin may become discolored and develop a leathery texture.^{1-3, 6, 9}

Chiropractic Management

Lymphedema can be managed with chiropractic treatments aimed at reducing swelling and preventing complications. Treatments may include manipulation, manual and machine lymph drainage, exercise, skin care, and compression garments. Some cases are a result of surgery and in some cases, we need to refer for surgery. Early diagnosis and treatment are crucial to managing the condition effectively and preventing its progression.²⁻⁹

The Value of Exercise Therapy

Most of the research with lymphedema and exercise therapy has been done on the breast cancer population. My experience with patients has been with postsurgical lymph node removal as part of cancer surgery, radiotherapy for cancer, trauma or tissue damage, active surveillance of cancer, and overweight people.

An important randomized, controlled exercise study on breast cancer and lymphedema is known as the Physical Activity and Lymphedema (PAL) trial. This trial assessed the safety of progressive strength training specific to breast cancer survivors and its effects on lymphedema.

The PAL trial focused on secondary lymphedema and involved 295 women who participated in a progressive strength training program two times a week. They did this for an entire year. For the first three months, they were in a supervised setting with support from a certified fitness professional; then they were essentially on their own / independent for nine months afterward.

The specific exercises used were part of a slowly progressive resistance exercise program. Resistance exercises were taught to groups of 2-6 women per 90-minute class. Adjustable dumbbells weighing 0.45 to 9.45 kg were shipped to participants' homes for use in performing these exercises during the independent portion of the trial.¹⁰⁻¹¹

The exercises included in the program were designed to be safe for breast cancer survivors with or at risk for lymphedema, focusing on both upper- and lower-body resistance training, "core" training, along with warm-up, cooldown, and stretching exercises. The program aimed to improve physical functioning and muscular strength, and potentially reduce the risk or severity of lymphedema exacerbations by enhancing the physiological capacity of the affected limbs.¹²

The PAL trial found that carefully supervised progressive strength training was not only safe for breast cancer survivors with lymphedema, but also had potential benefits. Key results from the PAL trial included:

- **No Increase in Lymphedema.** The study demonstrated that participants who engaged in the progressive strength training did not experience an increase in lymphedema exacerbations compared to the control group, which did not participate in the strength training.
- **Improved Strength and Physical Function.** Participants in the strength training group showed significant improvements in upper- and lower-body strength, as well as in physical function, compared to the control group.
- **Potential Reduction in Symptoms.** Some participants in the strength training group reported a reduction in lymphedema symptoms and an improvement in the quality of life, although these outcomes varied among individuals.
- **Importance of Supervision.** The trial underscored the importance of professional supervision

for breast cancer survivors engaging in strength training, especially in the initial stages, to ensure exercises are performed correctly and safely.

The PAL trial's findings were significant because they challenged the longstanding recommendation that breast cancer survivors with lymphedema should avoid upper-body exercise to prevent worsening of their condition. Instead, the study suggested that with proper guidance and precautions, strength training could be a beneficial component of lymphedema management.¹⁰⁻¹³

Editor's Note: In part 2 of this article (July issue), Dr. Tucker discusses the POLITE method of treatment options / recommendations and recommended exercises based on research and his decades of clinical experience. References supporting the citations in both parts accompany part 2.

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