

The Benefits of Abdominal Breathing Exercises in the Management of Lymphedema

Unlike the heart in the blood circulatory system, the lymphatic system does not have an active pump to propel lymphatic fluid back to the bloodstream. Effective lymph flow depends on sufficient muscle and joint activity, especially if the functionality of the lymphatic system is compromised.

Abdominal (diaphragmatic) breathing exercises are a valuable tool in stimulating deep lymphatic structures, such as the cisterna chyli (13), the abdominal part of the thoracic duct (14), lumbar trunks (11) and lumbar lymph nodes, pelvic lymph nodes, and certain organ systems.

Stimulation of these deep lymphatic structures, in particular the thoracic duct (the largest lymph vessel in the body), accelerates the transport of lymph fluid toward the venous angles (15), through which the lymph fluid is returned into the blood circulatory system.

Lymph fluid from the lower extremities passes through these deep lymphatic structures and an increased flow of lymph, particularly in the thoracic duct, results in improved lymphatic drainage from the lower extremities. Individuals affected by lymphedema of the leg greatly benefit from diaphragmatic breathing exercises, especially when combined with a comprehensive decongestive exercise regimen.

The downward and upward movement of the diaphragm in deep abdominal breathing not only is an essential component for the sufficient return of lymphatic fluid back to the bloodstream; movement of the diaphragm, combined with the outward and inward movements of the abdomen, ribcage, and lower back, also promotes general well-being, relaxation, peristalsis and return of venous blood back to the heart.

The considerable decongestive effects on the lymphatic and venous systems in combination with these additional benefits make abdominal breathing exercises also a valuable tool for the treatment of upper extremity lymphedema.

Diaphragmatic breathing exercises with the primary goal of decongestion is best performed lying on your back (supine) with the knees bent and your head supported with a pillow; however, they may also be performed sitting on a stool or chair without leaning back.

Abdominal breathing exercises should never cause dizziness, pain or discomfort. Please consult with your physician especially if you are experiencing pain and discomfort.

How to perform abdominal breathing in the supine position:

(Here is a link to a video demonstrating abdominal breathing exercise:

<https://www.youtube.com/watch?v=kgTL5G1iblo>

1. Lie on your back on a flat surface (or in bed), with your knees bent and your head supported. You may use a pillow under your knees to support your legs. Place one hand on your upper chest and the other on your belly. This will allow you to feel your diaphragm move as you breathe.
2. Breathe in slowly through your nose so that you feel your stomach moving out against your hand. The hand on your chest should remain as still as possible.
3. Tighten your stomach muscles, letting them fall inward as you exhale. The hand on your upper chest must remain as still as possible. To pronounce the exhaling you may let the exhaled air flow through pursed lips.

It is recommended to first practice abdominal breathing exercises 5-10 minutes about 3-4 times per day. If no dizziness or discomfort is noted, you may gradually increase the amount of time you spend doing this exercise.

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