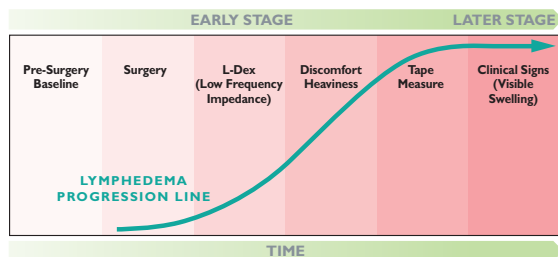


What is bioimpedance spectroscopy?

Bioimpedance spectroscopy aids in the clinical assessment of extracellular fluid in the limb. A fluid increase may indicate to healthcare professionals the early onset of lymphedema. The increase is measured by passing a harmless, low level electrical signal through the body. There is no danger or pain from this process.

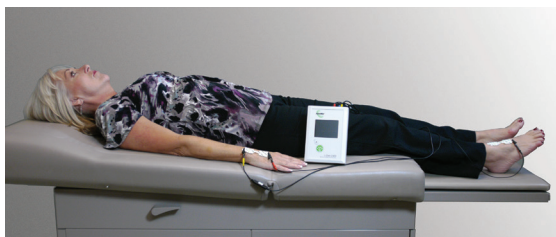
- The amount of fluid in the limb increases as lymphedema develops
- Increased fluid means that the electrical signal can pass through the body more easily



Studies have shown that the use of bioimpedance spectroscopy is able to assist healthcare providers in clinically assessing a patient and diagnosing lymphedema as much as 4–10 months earlier than other methods.⁴

The L-Dex® device from ImpediMed is the first FDA-cleared medical technology for the assessment of lymphedema that uses bioimpedance spectroscopy. The system has been developed to assist your doctor in assessing the early onset of lymphedema before feelings of heaviness or visible swelling.

The L-Dex system produces an early lymphedema assessment index value that can help determine if you are building up excess fluid in your at-risk limb. The test takes only minutes to perform. It is painless and gives an immediate result.



REFERENCES

1. Mortimer PS, et al. *A J Med* 89, 377-280, 1996.
2. Casely-Smith JR, Casely-Smith JR. Physical therapy for lymphedema. *Med J Aust* 15:542-3, 1989.
3. Lawenda BD, Mondry TE, Johnstone PS. Lymphedema: a primer on the identification and management of a chronic condition in oncologic treatment. *CA Cancer J Clin.* 59(1): 8-24, 2009.
4. Cornish BH, et al. *Lymphology* 34, 2-11, 2001.
5. Hayes S, et al. *Breast Cancer Res Treat.* Feb, 89 (3):221-7, 2005.
6. Czerniec S, et al. 7th National Lymphedema Network Conference, USA, 2006.

WEB RESOURCES

www.L-Dex.com
www.avoncrusade.com
www.cancer.gov
www.cancer.org
www.lymphaticresearch.org
www.lymphedemacircleofhope.org
www.lymphnet.org
www.lymphnotes.com

Note: L-Dex values that lie outside the normal range may indicate the early signs of lymphedema, and values that have changed +10 L-Dex units from baseline may also indicate early lymphedema. The L-Dex scale is a tool to assist in the clinical assessment of lymphedema by a medical provider.

This brochure has been provided as a public service to survivors of cancer and their families compliments of ImpediMed, Limited in consultation with experts in the field of lymphedema.

www.impedimed.com

www.L-Dex.com

*Arm photos courtesy of Dr. Charles McGarvey and Guenter Klose.

†Leg photos from Mihara M, Hara H, Hayashi Y, Narushima M, et al. (2012) Pathological Steps of Cancer-Related Lymphedema: Histological Changes in the Collecting Lymphatic Vessels after Lymphadenectomy. *PLoS ONE* 7(7): e41126. doi:10.1371/journal.pone.0041126 <http://www.plosone.org/article/info:doi/10.1371/journal.pone.0041126>.

What you should know
about Lymphedema
and Cancer



Surviving the challenges of cancer is physically and emotionally difficult. Thanks to advances in medical technology and therapy, more and more people are successfully beating their cancer.

Unfortunately, treatment for cancer sometimes causes secondary conditions which have a negative impact on a survivor's quality of life.

One such condition called lymphedema results in swelling of the limb due to radiation therapy and/or lymph node removal.

What is lymphedema?

Lymphedema is a condition that can cause significant swelling of the arm or leg due to extracellular fluid buildup in that part of the body.

This can occur when the lymphatic system, which is responsible for draining excess fluid, is damaged as a result of cancer therapies.

How common is lymphedema?

There is a wide range of incidence in published data, but it is generally accepted that approximately 20–30% of patients with certain types of cancer may develop lymphedema.

In some people, lymphedema can occur within the first two years after surgery. For others, it can take up to 10–15 years for lymphedema to develop.¹

Who is at risk of developing lymphedema?

People who have had surgery to remove lymph nodes and/or radiation therapy are always at risk of developing lymphedema.

When lymphedema is not diagnosed early and managed appropriately, it may become a long-term, irreversible condition affecting quality of life and appearance.

What are the earliest symptoms?

Some of the early signs and symptoms of lymphedema include:

- Rings, bracelets, clothing or a watch band beginning to feel tighter than normal
- A feeling of heaviness or fullness in your arm or leg
- When pressed with a finger, an indentation in your limb takes a while to go away

Can lymphedema be prevented?

Scientists don't yet fully understand why some people develop lymphedema while others don't. It is known that earlier treatment gives a better chance of a return to normal function, activities and appearance.²

Having a baseline clinical assessment before cancer treatment begins allows your medical team to better understand what is "normal" for you. It is then easier to detect lymphedema very early in its development. Earlier treatment of lymphedema often means a better quality of life.³

How is lymphedema measured today?

Unfortunately, most lymphedema is not detected until the limb has become visibly swollen. By this time, in some cases, the condition is irreversible.

Once diagnosed, lymphedema is monitored during therapy by either a tape measure or other devices which estimate the total volume of the limb.

Now, however, there is new, FDA-cleared technology called bioimpedance spectroscopy that assists your doctor in clinically assessing and treating the onset of lymphedema earlier and to clinically monitor therapy more closely.⁴⁻⁶

The Four Stages of Unilateral Lymphedema*†



STAGE 0



STAGE I



STAGE II



STAGE III

