Early Detection of Lymphedema with L-Dex®
About Lymphedema

Lymphedema is a condition in which extra lymph fluid builds up in tissues and causes swelling.

• Usually occurs in arm(s) or leg(s) but can occur anywhere in the body.
• The swelling can cause physical damage and affect your quality of life.
• Lymphedema in a limb can damage tissues, slow wound healing, harden the skin, cause pain, and restrict your range of motion.
• It is not life-threatening but it can become a chronic and irreversible condition.
• Right now, there is no cure. Treatment focuses on reducing swelling, relieving symptoms, and preventing complications.
• Can result from treatments such as surgery or radiation therapy that damage the lymphatic system*.
• Commonly occurs within 2 years of treatment, but it may show up as much as 15 years later.

*More information about the lymphatic system can be found at the end of this brochure.
What is L-Dex®?

L-Dex stands for **Lymphedema Index**, a measurement system that is used to measure both your arms (or both legs) to see if one arm (or leg) to see if it is collecting excess fluid. The system allows your healthcare provider to catch lymphedema as it is just beginning - before any other current methods. For those who already have lymphedema and are being treated for it, the L-Dex can help evaluate whether the treatment is working.

**Why is early detection important?**

Since we cannot predict which patients will or won’t get lymphedema, and because lymphedema can develop so many years after treatment, having routine L-Dex® measurements can help with earlier diagnosis. Earlier detection means treatment can begin sooner, and it may be possible to avoid more serious symptoms. Studies show that early treatment provides a better opportunity for normal function and appearance. The technology used in the L-Dex measurements can diagnose lymphedema as much as 4-10 months earlier than other methods.

**How do they measure?**

A very low strength electrical signal is passed through both arms (or both legs). The signal moves faster in tissues that contain more fluid, which could mean lymph is beginning to build up in that arm (or leg). The measurements taken for each arm (or leg) are compared to each other and the difference between the two is called an L-Dex value. There is no discomfort during the measurement and the results
are known immediately. Before L-Dex, lymphedema wasn’t usually diagnosed until you could see the limb was swollen. It was monitored by using a tape measure wrapped around the arm (or leg).

When are the measurements taken?

- The pre-op measurements are taken before the surgery, or radiation therapy, that may cause damage to the lymph system. This first test establishes a baseline, which makes it easier to spot changes after treatment starts.
- The post op test is done 3 months after treatment, on the same day and time that the pre-op test was done.
- All measurements taken at future appointments are compared with the ones you’ve had in the past.

Can everyone have L-Dex measurements taken?

No, the L-Dex is not available for women who have a pacemaker or who have had sentinel lymph nodes removed near both breasts or both sides of the groin. It is not available for men.
How do I prepare?

- Don’t wear pantyhose or tights to the appointment, or be prepared to remove them before the test.
- Tell your provider if you are, or could be, pregnant
- Tell your providers if you have any implanted electronic devices, like a pacemaker, or metal implants.
- There are no restrictions on eating or drinking before this test.

What will happen during the test?

- You will lie on your back
- Electrodes will be placed on your hands and feet
- Low level of current will run through you to measure your fluid levels. You will not feel anything.
- Results are ready immediately
- There are no restrictions after the test
About the Lymphatic System

The pumping of your heart and the contractions in the walls of your blood vessels creates pressure that does some important things, such as:

- keeps blood moving through your body
- pushes nutrients and oxygen into your cells
- pushes wastes out of your cells

It also causes fluids to leak out of the blood vessels and into the tissues and spaces surrounding the cells. These leaked fluids, and the waste products and bacteria they contain, are collected by tiny vessels called lymphatic capillaries. Once inside, the fluid is called lymph. Lymph also contains white blood cells (that attack bacteria) and chyle, a fluid from your intestines that contains proteins and fats. Lymph travels through a one-way system as smaller vessels empty into larger ones. Eventually, lymph is returned to the bloodstream.

As lymph travels through the vessel system, it passes through lymph nodes. Lymph nodes are small, bean-shaped structures. They trap foreign materials such as bacteria and cancer cells and then release cells to destroy them. Sometimes this process causes the node(s) to swell. What many call ‘swollen glands’ are actually swollen lymph nodes. Clusters of lymph nodes are found in the neck, armpit, groin, and the center of your chest.
**Lymphatic System:** The lymph system is a network of organs (tonsils, adenoids, spleen, and thymus), lymph nodes, lymph ducts, and lymph vessels (including lymphatic capillaries).

When the lymphatic system has been damaged by surgery, radiation therapy, or tissue damage, it does not drain fluids correctly. This can cause swelling in one part of the body, usually an arm or leg, and the area can become uncomfortable or painful.

Swelling that lasts less than 3 months is called edema. If swelling lasts 3 months or more, it is called lymphedema.
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