

Lymphedema Prevention Fact Sheet

Cancer-Related Secondary Lymphedema

- Lymphedema is a leading post-treatment complication for many cancer patients
- Lymphedema risk exists for women and men treated for multiple cancer types including:
 - Breast
 - Melanoma
 - Genital
 - Urinary
- Surgical, radiation, or certain chemotherapy treatments can damage the lymphatic drainage system in one or more limbs
- Lymphedema is characterized by the buildup of lymphatic fluid that causes painful and sometimes debilitating tightness in the effected limb
 - Lymphedema can also lead to infections requiring hospitalization
- Lymphedema develops in stages, once Stage 2 is reached it is a chronic condition that the patient will manage for the rest of their lives
 - Stage 0 – Lymphatic drainage is impaired setting the stage for overload
 - Stage 1 – Accumulation of lymphatic fluid causes swelling
 - Stage 2 – Increased swelling and fibrotic tissue begins to develop
 - Stage 3 – Limb becomes large and misshapen
- Treatments for chronic lymphedema are expensive and time-consuming:
 - Complex decongestive physiotherapy
 - Pneumatic pumps
 - Hospitalization and antibiotics for injections
 - Surgical lymph node transfer or lymphovenous anastomosis (LVA)

Statistical Figures

- There are nearly 17 million cancer survivors in the U.S.¹
 - This is expected to increase by nearly 500 thousand every year¹
- One in three at-risk cancer survivors will develop secondary lymphedema related to their cancer treatment²
- Cancer-related lymphedema costs the US healthcare system approximately \$7 billion every year³
- Lymphedema has significant economic implications for patients: annual health-related out-of-pocket costs for patients diagnosed with breast cancer related lymphedema are estimated at \$2,306, or \$3,325 including productivity losses⁴

Prevention

- Lymphedema is reversible if it is caught in Stage 0 or Stage 1 and treated with simple at-home care
- If patients wait for symptoms to seek lymphedema treatment, its often too late to reverse it:
 - Most patients don't experience symptoms until swelling has developed in Stage 1
 - Owing to the time to see the doctor and therapists for treatment, most patients do not receive treatment until Stage 2, when it is too late to prevent lymphedema
- In order to catch lymphedema at Stage 0 or Stage 1, at-risk patients must be routinely monitored using clinical assessments with their L-Dex[®] score
- When Stage 0 or Stage 1 lymphedema is detected, patients are treated with 4 weeks of at-home care including a standard compression sleeve, which has been shown to stop and reverse lymphedema progression

L-Dex® Score

- L-Dex® score measures the ratio of fluid accumulation in a limb that is at risk for lymphedema and compares it to a healthy limb
- A change in L-Dex® score of +6.5 from a baseline value is an indicator of the development of lymphedema and, combined with clinical assessment, triggers the need for at-home intervention
- The L-Dex® score is determined using a sophisticated technology called bioimpedance spectroscopy (BIS), which is capable of detecting fluid changes as small as 2.4 tablespoons in the limbs
- A BIS scan takes less than 30 seconds to complete and is completely non-invasive
- Patients can get BIS scans for their L-Dex® score at their treating cancer center
- L-Dex® is measured on a device called SOZO®, from ImpediMed; L-Dex® was developed by and is proprietary to ImpediMed and not available from any other sources

Clinical Evidence

- L-Dex® has over twenty years of research with over 17,500 patients studied
- The PREVENT trial demonstrated that routine monitoring with L-Dex® combined with at-home intervention resulted in a 95% reduction in lymphedema progression at 1 year
 - PREVENT is the largest randomized controlled trial focused on lymphedema prevention
 - >1,100 patients
 - 10 centers across US and Australia
 - Enrolled breast cancer survivors at risk for lymphedema
 - Pre-specified interim analysis on 50% of the patient population at 12 months demonstrated a 95% reduction in lymphedema prevention
- The results of the PREVENT trial have been repeated in six single-center studies from a range of US and Australian cancer centers

References

- 1) NIH, National Cancer Institute: <https://cancercontrol.cancer.gov/ocs/statistics/statistics.html> accessed April 30, 2019.
- 2) Average reported incidence based on a range of 8% - 56%: NIH, National Cancer Institute: https://www.cancer.gov/about-cancer/treatment/side-effects/lymphedema/lymphedema-hp-pdq#cit/section_1.10 accessed April 30, 2019.
- 3) Estimate based on number of cancer survivors and costs of lymphedema from Basta MN, et al. Complicated breast cancer–related lymphedema: evaluating health care resource utilization and associated costs of management. *Am Jr Surg* 2015; <http://dx.doi.org/10.1016/j.amjsurg.2015.06.015>.
- 4) Dean LT, et al. Blt still affects our economic situation^: long-term economic burden of breast cancer and lymphedema. *Support Care Cancer* 2019;27:1697–1708.