

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Breast Cancer and Survivorship

The NCCN Guidelines® are consistent with regards to the necessity to educate patients about lymphedema and monitor for the early development of lymphedema.

NCCN Guidelines for Breast Cancer, V.3.2020¹

MS-51

“Lymphedema is a common complication after treatment for breast cancer. Factors associated with increased risk of lymphedema include extent of axillary surgery, axillary radiation, infection, and patient obesity.^{2,3} The panel recommends educating the patients on lymphedema, monitoring for lymphedema, and referring for lymphedema management as needed.”

BINV-16 SURVEILLANCE/FOLLOW-UP

- “History and physical exam 1-4 times per year as clinically appropriate for 5 y, then annually.”
- “Educate, monitor, and refer for lymphedema management, see NCCN Guidelines for Survivorship for Lymphedema.”

BINV-E AXILLARY LYMPH NODE STAGING

“Lymphedema is a potential side effect after the treatment of axillary lymph node surgery resulting from damage to the lymphatic system. Early detection/diagnosis of lymphedema is key for optimal management. Consider pretreatment measurement of both arms as baseline for patients with risk factors for lymphedema. [See NCCN Guidelines for Survivorship: Lymphedema \(SLYMPH-1\).](#)”

MS-28

“Lymphedema is a common side effect of cancer treatment, occurring on the same side of the body as the cancer treatment, resulting from damage to the lymphatic system. It occurs when lymph fluid accumulates in the interstitial tissue, causing swelling of the limb or other areas such as the neck, trunk, or genitals. Lymphedema is most often diagnosed within 18 months of treatment; however, it can develop any time in the life of the survivor.”

“More than 20% of cancer survivors reported lymphedema as a physical concern in a survey of almost 14 million survivors in the United States in a 2010 LIVESTRONG study.⁵ The incidence of lymphedema varies by disease site. In one study, 41% of almost 1000 breast cancer survivors developed lymphedema by 10-year follow-up.⁶ In a study of survivors of gynecologic cancers, the incidence of lymphedema 2 years after surgery was 37%.⁷ In one study of 431 survivors of melanoma who had been treated with complete lymph node dissection and/or wide local excision and axillary or inguinal sentinel lymph node surgery, the reported incidence of lymphedema was 25%.⁸”

MS-29

Risk Factors for Lymphedema

“Survivors whose cancer treatment included surgery and/or radiation to the axillary, supraclavicular, cervical or inguinal lymph node system are at risk for the development of lymphedema.⁹⁻¹² Sentinel lymph node biopsy also appears to increase the risk of lymphedema, although it poses less risk than complete dissection or radiation to the nodal group, and data are not completely consistent.^{10,13-17} Other treatment-related factors that have been associated with an increased risk of lymphedema are receipt of chemotherapy or radiation and the extent of lymph node dissection.^{6,7,9-12,15, 17-19} Overweight (body mass index [BMI] ≥ 25 kg/m²) and obesity (BMI ≥ 30 kg/m²), localized infection, and higher initial stage of disease also raise the risk of lymphedema development.”^{6,7,9,10,12,17,19-21}

Assessment and Workup for Lymphedema

“Survivors with a history of radiation or surgery to the lymph nodes should be asked about swelling or feeling of heaviness, fatigue, or fullness at each visit. Early detection and diagnosis is key for optimal lymphedema management, because stages 0 and 1 are reversible, whereas stages 2 and 3 are less responsive to treatment (see *Definition and Stages of Lymphedema* in the algorithm).”

MS-30

Survivor Lymphedema Education

“Early detection and diagnosis is key for optimal lymphedema management because earlier stages are reversible. Therefore, survivors should be educated about the signs and symptoms of lymphedema and the importance of rapid reporting to the treatment team. Survivors should be told to inform their medical provider if subtle swelling or any other symptoms (eg, fullness, tightness, heaviness, pain) on the treated side are noted.”

NCCN Guidelines for Survivorship, V.1.2020⁴

SLYMPH-1 DEFINITION AND STAGES OF LYMPHEDEMA^{22, 23}

- **“Definition:** Lymphedema occurs when lymph fluid accumulates in the interstitial tissue, causing swelling of the limb or other areas such as the neck, trunk, or genitals. It is a common side effect of cancer treatment, occurring on the same side of the body as the cancer treatment, as a result of dysfunction of the lymphatic system.”
- **“Stage 0 (latent/subclinical):** Lymphatic dysfunction without swelling; subtle symptoms, such as a feeling of heaviness or fatigue in the limb, may be present.”
- **“Stage 1 (spontaneously reversible):** Accumulation of fluid and protein causing swelling: pitting edema may be evident; increased girth, heaviness, and/or stiffness of affected area. For the limbs, swelling is relieved with elevation.”
- **“Stage 2 (irreversible):** Spongy tissue consistency, with pitting edema that becomes less evident as swelling increases; tissue fibrosis causing hardness and increase in size. For the limbs, swelling is not relieved with elevation.”
- **“Stage 3 (lymphostatic elephantiasis):** Severe, dry, scaly, thickened skin; increased swelling and girth of affected area; can be debilitating. In the limbs, fluid leakage and blisters are common.”

SLYMPH-2 PRINCIPLES OF LYMPHEDEMA

- “Lymphedema is a potential side effect after the treatment of cancer resulting from damage to the lymphatic system. Lymphedema is most often diagnosed within 18 months of treatment; however, it can develop anytime in the life of the survivor. Depending on stage of diagnosis, lymphedema can be an acute or chronic condition.”
- “Swelling on the same side as the cancer treatment is a universal symptom of lymphedema. Additional initial symptoms may include sensation of heaviness, fatigue, fullness or tightness in the skin, or pain. Symptoms including decreased range of motion or strength and thickening of the skin may occur in later stages.”²²
- “Survivors who had surgery or radiation to the axillary, supraclavicular, cervical, or inguinal lymph node system are at risk for the development of lymphedema. Sentinel node biopsy also increases the risk of lymphedema, although it poses less risk than complete dissection or radiation to the nodal group.”
- “Obesity (BMI) >30 kg/m², localized infection, increased number of nodes removed, and higher initial extent of disease raise the risk of lymphedema development.
- “Pretreatment limb measurement of both sides should be performed as a baseline for survivors with treatment-related or individual risk factors, preferably by a trained lymphedema specialist.”
- “Early detection/diagnosis is key for optimal lymphedema management because stages 0 and 1 are reversible, whereas stages 2 and 3 are less responsive to treatment. Therefore, survivors should be told to inform their medical provider if subtle swelling or any other symptoms (eg, fullness, tightness, heaviness, pain) on the treated side are noted.

SLYMPH-B PRINCIPLES OF PHYSICAL ACTIVITY FOR SURVIVORS WITH OR AT RISK FOR LYMPHEDEMA

“Survivors should undergo baseline and periodic evaluation for development or exacerbation of lymphedema.”

Early Detection Using SOZO® Digital Health Platform

SOZO enables early detection of fluid accumulation, shown to reduce the progression to chronic, clinical lymphedema by almost 95%.²⁴ SOZO enables you to quickly and accurately measure changes in fluid status, which can lead to more efficient clinical decision making that can help protect your patient's quality of life.

SOZO L-Dex® Assessment Protocol

Pre-treatment baseline
Years 1 - 3: Every 3 months
Years 4 - 5: Every 6 months
Years 6+: Annually

Reimbursement for L-Dex

CPT Code	Descriptor	2020 Medicare National Physician Payment		2020 Medicare Hospital Outpatient Payment	
		RVU	Payment	APC	Payment
93702	Bioimpedance spectroscopy (BIS), extracellular fluid analysis for lymphedema assessment	3.90	\$ 140.75	5721	\$ 138.35

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