

## Early Detection of Lymphedema in Post-Surgery Oncology Patients

**Authors :** Sneha Noble, Rahul Krishnan, Uma G., D. K. Vijaykumar

**Abstract :** Breast-Cancer related Lymphedema is a major problem that affects many women. Lymphedema is the swelling that generally occurs in the arms or legs caused by the removal of or damage to lymph nodes as a part of cancer treatment. Treating it at the earliest possible stage is the best way to manage the condition and prevent it from leading to pain, recurrent infection, reduced mobility, and impaired function. So, this project aims to focus on the multi-modal approaches to identify the risks of Lymphedema in post-surgical oncology patients and prevent it at the earliest. The Kinect IR Sensor is utilized to capture the images of the body and after image processing techniques, the region of interest is obtained. Then, performing the voxelization method will provide volume measurements in pre-operative and post-operative periods in patients. The formation of a mathematical model will help in the comparison of values. Clinical pathological data of patients will be investigated to assess the factors responsible for the development of lymphedema and its risks.

**Keywords :** Kinect IR sensor, Lymphedema, voxelization, lymph nodes

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