**Vascularized Submental Lymph Node Flap Transfer**

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For patients with Cheng’s Lymphedema late Grade II to Grade IV lymphedema, no patent functioning lymphatics on indocyanine green lymphography and complete occlusion detected on lymphoscintigraphy, a vascularized submental lymph node (VSLN) transfer is recommended for treatment.

The VSLN flap has the benefit of being a safer option. The submental scar is inconspicuous, the anatomy is consistent and the flap is less bulky when compared to traditional groin lymph node flaps. Platysma-sparing technique flap harvest can prevent the marginal mandibular nerve pseudo-paralysis.

The vascularized lymph nodes behave like the motor of a pump that absorbs interstitial fluids and subsequently diverts the lymph fluid to the venous circulation. The “catchment effect” explains that when the subcutaneous interstitial pressure in the lymphedematous limb decreases, there is more lymph from the surrounding tissue that is recruited into the transferred lymph nodes. The “gravity effect” and the propelling motion of swinging the arms results in fluid accumulating distally. As such, by placing the pump distally where fluid accumulation is most, the drainage efficiency of the flap is maximized.

Surgical success following VLN transfer could be defined as an improvement of multifactorial objective and subjective observations, including the downgrading of the patient’s clinical grading with reduced circumferential differences, decreased episodes of cellulitis and improved quality of life. The outcome of VSLN showed improvement of the lymphatic obstruction is assessed with lymphoscintigraphy at a one-year follow-up to demonstrate functioning lymph nodes transplanted in the distal limb, less tracer accumulation, less dermal backflow and the formation of new lymphatic connections. We found that improvements in limb circumference are mirrored by improvements in all quality of life domains as soon as 12 months following VSLN transfer.

Vascularized lymph node transfer has become a promising treatment for moderate and advanced grades of extremity lymphedema. Patient selection, careful preoperative evaluation of donor site and recipient site and mastering of the related anatomy and surgical skills are the key factors for successful treatment of lymphedema of the extremities using VSLN flap.