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# Impact of Lymphedema Surgery on Reduction of Knee Prosthesis Removal.

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**Background:** Lymphedema is becoming increasingly common in the clinical setting, and there is a concordant rise in the number of lymphedema patients requiring total knee arthroplasty (TKA) for treatment of knee osteoarthritis (OA). However, the complications of TKA in lymphedema patients are frequent, especially periprosthetic joint infection—a serious complication which can necessitate prosthesis removal. It is likely that surgical treatment of lymphedema would decrease infections in lymphedematous extremities and thereby reduce the removal rate of knee prostheses.

**Methods:** We retrospectively reviewed our prospective database of patient information collected between January 2009 to December 2018. 348 cases of lower extremity lymphedema were reviewed for OA of the knee. Patient demographics, clinical data, lymphedema surgical history, and TKA surgical history including any episodes of removal were collected and analyzed.

**Results:** 15 lymphedema patients were diagnosed with knee OA. The mean patient age was  $71.4 \pm 6.5$  years. Mean lymphedema symptom duration was  $129.8 \pm 136.8$  months. 18 TKA were performed in 9 patients with 10 lymphedematous limbs with knee OA. Overall knee prosthesis removal rate was 55.6% (10/18) in lymphedematous limb. The prosthesis removal rate was 40% (2/5) in patients who underwent vascularized submental lymph node transfer (VSLNT) or lymph venous anastomosis (LVA) versus a removal rate of 61.5% (8/13) for those who did not surgery. The success rate was 60% (3/5) in patients who underwent VSLNT or LVA versus a success rate of 38.5% (5/13) for those who did not surgery.

**Conclusion:** Lymphedema is a factor shown to increase knee prosthesis removal, while VSLNT or LVA seems to associate with reduction of the removal rate of knee prostheses. Pre-existing lymphedema should not be overlooked and we recommend lymphedema treatment in the patients who may need TKA in the future.