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## ACCEPTED MANUSCRIPT

Donor Site Morbidity of the Anterolateral Thigh Flap

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#### **Abstract**

#### Introduction:

The purpose of this study was to investigate donor site morbidity after reconstruction of defects in the head and neck region with an anterolateral thigh (ALT) flap.

#### Methods:

From 07/2006 to 12/2015 the anterolateral thigh flap was used for reconstruction of large intra- or extraoral defects in 138 patients. The donor sites were available to examine for morbidity in 51 patients (36.7%). All patients completed a standardized questionnaire, received a physical examination, and underwent isokinetic muscle exercises of the lower extremity with a Dynamometer.

# Results:

The average postoperative follow-up was 29 months and showed significant donor site morbidity in the form of sensory disturbance as well as revealing significant differences in extension and flexion between donor and normal thighs in the isokinetic power test. Range of motion at the hip and knee was moderately compromised.

### Conclusion

The results of this study suggest that dissection of the musculocutaneous perforators can compromise the function of vastus lateralis, which is the largest compartment of the quadriceps group. This could also affect the antagonistic muscles such as the semitendinosus, semimembranosus and biceps femoris. Because of its versatility, adequate tissue stock, possibility of simultaneous two-team approach large and long pedicle and minimal donor site morbidity, the ALT flap has become one of the most preferred transplants for soft tissue reconstruction in the head and neck region. Most authors described the donor site morbidity as minimal (Song YG et al. 1984; Wolff KD et al., 2006; Xu DC et al., 1988; Kimata Y et al., 1997; Kuo YR et al., 2001; Collins J et al., 2012 ). In summary, the study shows that functional impairment of the donor thigh can occurbut does not affect the patients in their daily life.

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