

Functional anconeus free flap for thenar reconstruction: a cadaveric study

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OBJECTIVE

To investigate the clinical viability of free functioning muscle transfer (FFMT) of the anconeus for dynamic thenar reconstruction to restore thumb opposition

METHODS

Cadaveric study, digital image analysis using Image J 1.45d

RESULTS

No significant difference ($p > 0.05$) between mean measures of the anconeus muscle (fiber length = 88.0 ± 9.9 mm, fiber angle = $70.5 \pm 11.9^\circ$, area = 1341.9 ± 230.4 mm²) and its corresponding, ipsilateral thenar eminence (fiber length = 57.7 ± 9.0 mm, fiber angle = $78.4 \pm 12.2^\circ$, area = 987.7 ± 251.2 mm²)

The neurovasculature involved (vascular pedicle (recurrent posterior interosseous artery) length = 31.3 ± 6.9 mm; nerve and artery diameters between 1 to 2 mm) are adequate for microsurgical anastomosis

CONCLUSION

The anconeus FFMT is a viable option that may provide a greater degree of opposition compared to other FFMTs due to its unique muscular architecture

