



# Treatment of traumatic amputated thumb after failed V-Yplasty by a first dorsal metacarpal flap. Case report review study

Kabbani Khaled<sup>1</sup>, TsoumanisDimitris<sup>1</sup>, Kolkas Apostolos<sup>1</sup>, GerasimopoulosPanagiotis<sup>1</sup>, Papageorgiou Christos<sup>1</sup>  
1.Department of Orthopaedic Surgery, University of Ioannina School of Medicine, Ioannina, Greece.

## INTRODUCTION

It is known that V-Y plasty is an effective and easy way to treat pulp finger tip amputation. However when the amputation of the thumb is at the level of the distal interphalangeal joint or more proximal the rate of failure of the V-Y plasty may raise and the surgeon must have other options. The first metacarpal artery flap is a reliable and effective choice in reconstructing the thumb after traumatic amputations.

## PURPOSE

In this article we review the literature and present a case with amputated thumb which we have been treated first by V-Y plasty and later by an island first dorsal metacarpal artery flap (FDMAF). We describe and discuss the surgical technique, surgical tricks, pits and faults, and demonstrate our results after 5 years follow up.

## RESULTS

We searched PubMed and Google Scholar for articles about the use of FDMAF for post-traumatic reconstruction of the thumb in the period between 30/Jun/2012 and 30/June/2022. As key words we used, (First Dorsal metacarpal artery, thumb-pulp, reconstruction). A 7890 articles were found. After excluding children, burns, long fingers and other languages except English we selected 54 out of 394 articles by title. After evaluating the abstracts 9 studies were relevant. All were retrospective except one which was prospective. A total of 158 amputated thumbs were reconstructed with FDMAF all survived, 4 lost, two showed marginal necrosis and one had a morbidity at the donor site. Our patient returned to farm work and housekeeping 8 w post-operative. Had no cold intolerance or dysesthesia. Static two-point discrimination at last follow up (5 year) was measured 6 mm.

## CONCLUSIONS

The first dorsal metacarpal artery flap is well documented as a reliable flap with sufficient perfusion with negligible morbidity at the donor site. It can provide functional stump with sensation. FDMA flaps may be more reliable than the local advanced flaps when the level of amputation of the thumb is more proximal in relation to the pulp.

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Figure 1. 4y Post-Op.



Figure 2. 5y Post-Op.



Figure 3. 5y Post-Op.

