

Thenar Flap Reconstructive Surgery: Same Technique But Different Approach

¹Mohd Fadzli Iberahim Shah; ¹Kamarul Ariffin Khalid; ¹MHSyazwan MR; ¹Yap WK; ¹Syarifah SL

¹Department of Orthopaedic Surgery and Rehabilitation, Sultan Ahmad Shah Medical Center, Kuantan, Pahang, Malaysia.

INTRODUCTION:

Thenar flap was first described by Gatewood in 1926 for coverage of finger tip injuries with adequate glabrous skin that may return of some sensibility. However, the three cardinal technical principles of this technique which include the optimal location of flap near to Metacarpophalangeal Joint (MCPJ) crease of the thumb, fully flexion of MCPJ of recipient finger and the detachment procedure at day 10- 14 post operative followed by active range of motion exercises must be respected to prevent permanent complications[3].

REPORT:

Here, we presented 2 cases of patient, right hand dominant, alleged domestic injury with both of them sustained of right middle finger tip injury, Allen type IV (Case 1) and III (Case 2) undergone thenar flap reconstructive surgery using different approach.

Case 1 is a 15 year old, boy, underwent thenar flap using the method as described in the Campbell's Operative Orthopaedic, 14th Edition[1] where it was constructed with the thumb held in abduction, and maximum flexion of the injured finger so that its tip touches the middle of the thenar eminence. However, we noted the location of flap is too adjacent to the palmar cutaneous branch of median nerve.



Figure 1: Images showing the intraoperative planning and execution of the thenar flap surgery, following the method described in *Campbell's Operative Orthopaedics*, 14th Edition

Case 2 is 31 years old, man, proceeded with same surgery based on the description from Green's Operative hand Surgery Book 8th Edition[2]. We achieved the tension free thenar flap as near as possible to Thumb MCPJ in full flexion of MCPJ, away from midpalmar region without compromising underlying neurovascular structures.



Figure 2: Images showing the intraoperative planning and execution of the thenar flap surgery, following the method described in Green's Operative Hand Surgery, 8th Edition.

The progression of wound for both cases are depicted as Figure 1 (Case 1) and 2 (Case 2) respectively. Both cases were delayed in detachment procedure due to logistic issue where marked joint stiffness happened in most delayed detachment procedure.

CONCLUSION:

Applied anatomy and flap principles are crucial in thenar flap surgery to achieve optimal result in this reconstructive surgery. Patient selection and compliance will be another major factors to avoid expected complications in this feasible two-stage procedure.

REFERENCES:

1. Campbell's Operative Orthopaedic, 14th Edition
2. Green's Operative Hand Surgery Book 8th Edition.
3. Lemsanni M, Najeb Y, Chaouqui Y, Elkasseh M, Zoukal S. Fingertip injuries managed by a thenar flap: Follow-up and long-term outcomes of 32 cases. *Hand Surg Rehabil.* 2021 Sep;40(4):484-490. Epub 2021 Apr 23. PMID: 33895423.