

## The Journey of Recovery – The Salvage of a Crushed Hand

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### INTRODUCTION:

The crushed hand is a complex injury of the upper extremity. It involves injury to multiple structures of the hand leading to loss of function and viability. Inherently there are two treatment options for crush injuries, amputation and salvage reconstruction procedures <sup>[1]</sup>.

### REPORT:

This is a case of a 35-year-old, right hand dominant lady who presented with her right hand being crushed in a sugarcane juicing machine causing multiple fractures in the phalanges of the index to ring finger and skin loss over her dorsal and volar aspect of her hand and glove avulsion of the skin of her right thumb and hand.

She had immediately undergone a wound debridement of her hand with disarticulation of her index, middle and ring finger at level of metacarpo-phalangeal joint and interphalangeal joint of her thumb and was placed on a VAC dressing on the day of trauma.

We had counselled patient on her options which were either to undergo salvage and reconstruction procedure or for amputation and prosthesis application and patient was keen for salvage.

3 days after initial debridement we had proceeded with abdominal flap coverage of her right hand and division of the flap was done after 2 weeks and after 4 months when patient soft tissue and flap had well healed we had proceeded with a second stage reconstruction surgery where deepening of 1 web space and lengthening of the thumb was done using bone graft which was taken from the 2<sup>nd</sup> metacarpal bone.



**Figure 1:** Trauma Pictures with X-ray



**Figure 2:** Abdominal Flap intra operative and post division of flap



**Figure 3:** Post 1<sup>st</sup> web space deepening and lengthening of thumb with X-ray.

Currently at 6-month post-surgery she has good pincer grip function.

### DISCUSSION:

At the time of initial evaluation, it is difficult to identify salvageable limbs from unsalvageable ones. Due to recent advances in the treatment, the diagnostic accuracy of MESS for the need of amputation has decreased <sup>[2]</sup> and the management of such injuries should not be solely based on these scoring systems as they provide only general guidelines for treatment.

### CONCLUSION:

Salvage procedures leads to good function and higher satisfaction rates than a prosthesis, regardless of the objective functional outcome with preserving of the sensation of the hand with the psychological well-being of the patient.

### REFERENCES:

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