

# Initial Management of Traumatic Digit Amputations: A Retrospective Study of Functional Outcomes

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## INTRODUCTION

- Functional outcomes are dependent on successful replantation and rehabilitation.
- There is little evidence on impact of preoperative management on outcomes of the replanted digit.

## METHODS

- Retrospective cohort study over 18 month period
- Three preoperative management protocols (*Table 1*).
- Data included survival rate, secondary operations, functional outcomes and complication rate.

**Table 1. Preoperative protocols**

Minimal	Incomplete	Complete
<ul style="list-style-type: none"> <li>• Analgesia</li> <li>• Antibiotics</li> <li>• Tetanus vaccine</li> <li>• Pressure dressing on injured limb</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal plus: 2 - 3 points from the complete Buncke protocol</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal plus: Rectal aspirin</li> <li>• No digital block</li> <li>• Dry dressing</li> <li>• Indirect ice for amputate/splint for incomplete amputate</li> </ul>

## RESULTS

- 74 of 177 digits were replanted (*Fig 1*).
- Overall survival rate: 86%
  - No difference between protocols ( $p>0.05$ )
  - Higher for dry gauze vs wet gauze ( $p=0.03$ )
- Complication rate was significantly different between complete and minimal protocols ( $p=0.05$ , *Table 2*).

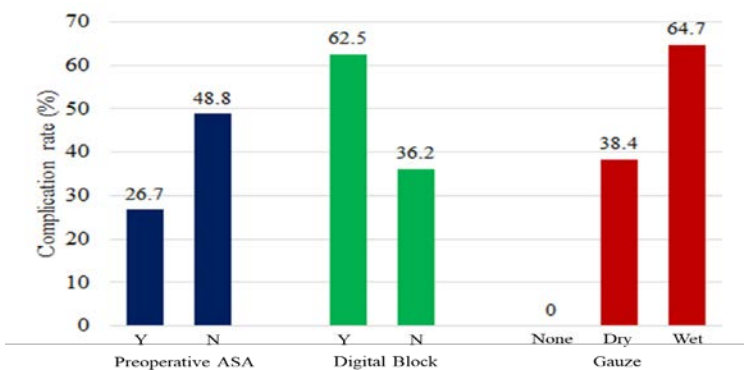


**Fig 1. Successfully replanted middle digit**

**Table 2. Complications in successful digit replants**

	Minimal (n = 15)	Incomplete (n = 32)	Complete (n = 10)
Complication rate	60%	50%	20%*

**Fig 2. Complication rate vs preop management**



## RESULTS

- Anticoagulation, absence of digital block and dry gauze showed reduced complication rates (*Fig 2*).
- Differences in sensation ( $p=0.05$ ) and grip strength ( $p=0.04$ ) were significant between protocols.

## CONCLUSION

- Buncke protocol significantly reduces complication rate and this was mirrored with each individual preoperative behaviour.
- Buncke protocol may preserve tissue integrity and thus reduce complications following replantation.