



TIME TO RETURN TO WORK AFTER SINGLE VS. DOUBLE NERVE LACERATIONS IN THE DISTAL VOLAR FOREARM

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Introduction

- To evaluate the time to return to work after acute, sharp and complete laceration of median, ulnar and combined median and ulnar nerves at the distal and volar aspects in the forearm.
- Despite a meticulous microsurgical nerve repair the results can be disappointing in terms of return to work on manual workers to their pre-injury work and it depends on what nerve or nerves are involved and the level of injury.

Methods

- We included patients between 18 and 45 years old, manual workers, on which 1-year follow up was available.
- Retrospectively collected medical record data of 93 cases with an acute, sharp and complete laceration of median, ulnar and combined median and ulnar nerves at the distal and volar aspect in the forearm in order to estimate which patients would return to their pre-injury work.
- Patients with comorbidities, bone injuries, presence of skin coverage deficit, drug abuse history, previous injuries on the same site, radial nerve injuries, or other injuries besides the forearm were excluded.
- 32 patients did not meet the inclusion criteria. 61 patients were included in the study.
- All surgeries were done by the same surgeon, between 6 and 48 hours after injury, repairing in the same setting damaged tendons or vessels. The nerve repair consisted on a tension-free epineural end to end coaptation under visual magnification using 9-0 nylon, and protected with a nerve conduit. Same Rehabilitation protocol used for all patients.
- Groups were divided into Ulnar, Median or combined Ulnar and Median nerve injury.
- Patients were evaluated at 3, 6 and 12 months to determined if they returned to the pre-injury work with no restrictions.

Figure 1



Ulnar Nerve Injury

Results

- 61 patients included in the study, Ages 18-42yo, Gender 38M, 23F.
- Subjects with isolated acute, sharp and complete laceration of median nerve reincorporated to their pre-injury work earlier than the other two groups
- Between Isolated Ulnar and Median nerve injury groups, the Ulnar nerve group had a slower functional recovery.
- One year after the injury 3 patients from the Isolated Ulnar nerve injury, 1 from the Isolated Median Nerve injury and 7 from the combined Ulnar and Median nerve injury did not return to their pre-injury work without restrictions or no return at all.

Figure 2



Ulnar and Median Nerve Injury

Figure 3



Median Nerve Injury

Table 1

	NUMBER	AGE	GENDER	INJURY TO THE DOMINANT HAND/FOR EARM	RETURN TO WORK WO RESTRICTIO NS AT 3 MONTHS	RETURN TO WORK WO RESTRICTIO NS AT 6 MONTHS	RETURN TO WORK WO RESTRICTIO NS AT 12 MONTHS
ULNAR NERVE	27	18-42	19M, 8F	24D, 3ND	7	17	3
MEDIAN NERVE	22	21-45	14M, 8F	17D, 5ND	12	9	1
ULNAR AND MEDIAN NERVE	12	19-45	5M, 7F	4D, 8ND	0	5	7
TOTAL	61	18-45	38M, 23F	45D, 16ND	19	31	11

Conclusion

- Functional Recovery is better when a single nerve is damaged vs. two nerves.
- On isolated, acute, sharp and complete laceration at the distal forearm of the Ulnar nerve and the Median nerve, the Median Nerve had a higher chance to return to their pre-injury work with no restrictions.
- Factors that affect the return to work include dominance, worker's profile, compliance to hand therapy and presence of Martin-Gruber connections.
- Prospective multicentric and larger clinical trials are needed.