

Composite Grafting of Pediatric Fingertip Injuries

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BACKGROUND AND OBJECTIVES

- Fingertip injuries are common in the pediatric population
- “Composite grafting” has become standard of care because of reported success rate in children
- Anecdotal evidence suggested that survival of grafts was less than quoted in the literature

DEMOGRAPHIC INFORMATION			
		Number	Percentage
Gender	Male	24	61.5%
	Female	15	38.5%
Age (range 1-22 years)	0-2 years	13	33.3%
	2-6 years	15	38.5%
	6-12 years	4	10%
	12-18 years	7	18%

INJURY SPECIFICS			
		Number	Percentage
Hand Involved	Right	22	56.4%
	Left	17	43.6%
Digit Involved	Middle Finger	15	38.5%
	Ring Finger	9	23.1%
	Small Finger	8	20.5%
	Index Finger	6	15.4%
	Thumb	1	2.6%
Fracture of Distal Phalanx	Yes	15	38.5%
	No	24	61.5%
Nailbed Involvement	Yes	24	61.5%
	No	15	38.5%
Location of Treatment	Emergency Room	27	69.2%
	Operating Room	12	30.8%

METHODS

- Retrospective review at Boston Children’s Hospital
- Patients 18 or younger with fingertip injury distal to the DIP joint (IP of thumb) with composite grafting for fingertip injury included
- Age, gender, laterality of hand, digit(s) involved, presence of associated fracture, nailbed involvement, and mechanism of injury collected
- Graft take characterized as no take, partial take, or complete take at 10-14 days

RESULTS

- 39 patients identified, mean age 5.9 years
- Injury more common in males (62%)
- Right hand more commonly injured (56%)
- Middle finger most commonly injured (39%)
- 33% had no graft take, 59% partial graft take, 8% complete graft take
- 4 patients (10%) underwent secondary revision, each of whom initially had no graft take
- Mean ages of patients with no take 6.5 years, partial take 5.6 years, and complete take 5.3 years
- Age did not have a statistically significant influence on graft take: younger patients’ grafts did not have greater take than those of older patients

OUTCOMES

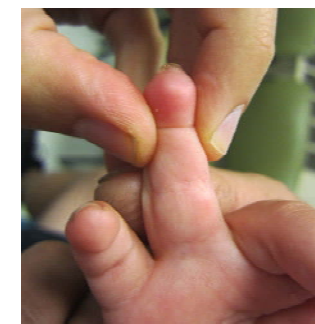
		Number	Percentage
Graft Take	No graft take (0-5%)	13	33.3%
	Partial Graft Take (5-95%)	23	59.0%
	Complete Graft Take (95-100%)	3	7.7%
Need for Secondary Revision	4 patients (10%)		
Median Follow-Up Appointments	3		
Mean Follow-Up	137 days (4.5 months)		

CONCLUSIONS

- Pediatric composite grafts do not always take well
- Despite low objective survival rates of composite grafts, most patients do not require secondary revision
- This may be the result of the graft functioning as a “biologic dressing”



After Composite Graft



2 Months Post-Op