

# Increased Rate of Complications following Trigger Finger Release in Diabetic Patients

Federer AE, Baumgartner RE, Cunningham DJ, Mithani SK

Department of Orthopaedic Surgery, Duke University Medical Center, Durham, North Carolina



## INTRODUCTION

Trigger finger (TF) or stenosing tenosynovitis affects 2.6% of the population and 10-20% of diabetics†

Wide range of complication rates in literature (1-43%, 0-3.8% return to operating room (OR))\*

Definitive risks of uncontrolled diabetes (DM) in complications of Trigger finger release (TFR) not defined

**Objective:** To investigate the impact of diabetes on complications after open TFR compared with an age, sex, race, and BMI class matched cohort

**Hypothesis:** Patients with Type 2 Diabetes (DM II) will have increased complications after TFR

## METHODS

Retrospective chart review of DM II patients who underwent TFR within the past 10 years

Exclusion criteria: rheumatoid arthritis, malignancy, HIV/AIDS, connective tissue disorders, or systemic steroid use

Patients were then matched by age, sex, race, and BMI class to non-diabetic patients who underwent TFR during same period

137 patients were matched with controls (274 patients total)

Complications included superficial or deep infection, delayed wound healing, limited range of motion (ROM) at 6 weeks, pain requiring medication at 6 weeks, and return to OR

Chi-square statistical analysis (JMP v 13.0)

Table 1

	Baseline Characteristic	DM2	No DM2
Matched Cohort	Age	58.7 (11)	58.3 (10.6)
	Caucasian race	86 / 137 (62.8%)	86 / 137 (62.8%)
	Female gender	95 / 137 (69.3%)	95 / 137 (69.3%)
	Overweight	30 / 137 (21.9%)	30 / 137 (21.9%)
	Class I obesity	45 / 137 (32.8%)	45 / 137 (32.8%)
	Class II obesity	28 / 137 (20.4%)	28 / 137 (20.4%)
	Class III obesity	24 / 137 (17.5%)	24 / 137 (17.5%)
	HbA1C	7.5 (1.3)	n/a
Total fingers	1.3 (0.6)	1.2 (0.5)	
Bilateral hands	6 / 137 (4.4%)	2 / 137 (1.5%)	
Any additional procedures	38 / 137 (27.7%)	34 / 137 (24.8%)	

## RESULTS

Diabetic patients had a significantly higher rate of **all-cause complication** following TFR compared to matched non-diabetic controls at an odds ratio of 2.1

Diabetic patients also had a significantly higher rate of **limitation in post-operative ROM** compared to the controls with an **odds ratio of 2.4**

No statistical difference in infection, wound healing, pain or return to OR

## CONCLUSIONS

Diabetic patients undergoing TFR are at increased risk of post-operative complications and specifically **ROM limitation** when compared with similar patients without diabetes

Diabetics should be counseled about increase risks for stiffness post-op

Possible role for post-op occupational therapy in diabetic patients

Table 2

Outcome	DM2	No DM2	Odds ratio (95% CI)	P-value
All-cause complication	36 / 137 (26.3%)	20 / 137 (14.6%)	2.1 (1.1 - 3.9)	0.016
Limited ROM past 6-weeks	18 / 137 (13.1%)	8 / 137 (5.8%)	2.4 (1.1, 6.1)	0.037
Superficial or deep infection	10 / 137 (7.3%)	5 / 137 (3.6%)	2.1 (0.7 - 6.8)	0.180
Delayed wound healing	6 / 137 (4.4%)	2 / 137 (1.5%)	3.1 (0.7 - 21.4)	0.142
Pain medication refill	5 / 137 (3.6%)	2 / 137 (1.5%)	2.6 (0.5 - 18.1)	0.24
Return to OR	2 / 137 (1.5%)	5 / 137 (3.6%)	0.4 (0.1 - 1.8)	0.24

†Lange-Reiss Arch Orthop Trauma Surg. 2009; Chammas J Hand Surg Am. 1995

\*Lange-Reiss et al. Arch Orthop Trauma Surg. 2009; Turowski et al. Hand Surg Am. 1997; Vaes et al. Acta Orthop Belg. 1998; Finsen et al. Hand Surg. 2003; Lim et al. J Hand Surg Eur. 2007; Will & Lubahn J Hand Surg Am. 2010; Cakmak et al. Arch Orthop Trauma Surg. 2012; Bruijnzeel et al. J Hand Surg Am. 2012; Thorpe et al. J Hand Surg Br. 1988