

# The Likelihood of Future Dupuytren Disease Intervention after Initial Treatment

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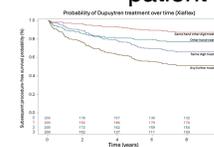
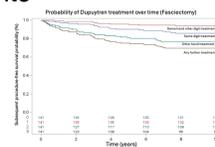
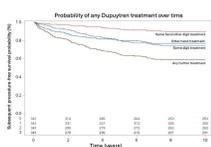
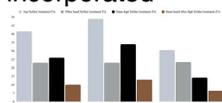
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**INTRODUCTION:** Dupuytren disease is a progressive fibroproliferative condition that can result in contracture in the digits. When contractures impair hand function, treatment options include radiation therapy, collagenase injection, needle aponeurotomy, and surgical fasciectomy. Each treatment modality has substantial evidence supporting its effects on contractures in the treated digit(s). There is a lack of information on the natural history and disease progression in the other untreated digits. In this study, we aimed to characterize the rate and time course of disease progression and identify risk factors for disease progression at the time of initial treatment for Dupuytren contracture (1) in another digit in the same hand and (2) in the contralateral hand.

**METHODS:** A single institutional database was queried for procedural codes for collagenase treatment or surgical fasciectomy. Time 0 was defined as the time of the patient's first treatment. Inclusion criteria was an initial collagenase or fasciectomy treatment after 1/1/2015. Exclusion criteria included any patient with a documented prior Dupuytren-related procedure before June 1, 2015; any patient with a first-time procedure in an outside hospital; and any patient with follow-up less than one year. A total of 658 patients were identified in this query. Out of this cohort, 341 patients were eligible for inclusion. The cohort consists of 141 initially treated with fasciectomy and 200 initially treated with collagenase, between 2015 and 2019. The primary outcome was the need for subsequent treatment in the same digit, other digits of the same hand, or the contralateral hand. Predictor variables included demographics, medical history, and pre-treatment contracture severity.

**RESULTS:** At a mean follow-up of 5.3 years, 142 (41.6%) of patients underwent additional treatment. Revision procedures on the same digit occurred in 88 patients (26 %) at a mean of 3.2 years, on another digit in the same hand in 35 patients (10%) at a mean of 3.6 years, and on the contralateral hand in 79 patients (23%) at a mean of 2.3 years. The incidence block graph can be found in figure 1. Figures 2-4 illustrate the Kaplan Meier curves for probability of further Dupuytren treatment over time. Procedure (OR, 3.28; 95 percent CI, 1.84 to 5.82); multiple digits treated (OR, 1.91; 95 percent CI, 1.12 to 3.23); initial nontreated contracture (OR, 2.19; 95 percent CI, 1.26 to 3.8) are associated with subsequent procedure on the same digit. Younger age (0.96; 95 percent CI, 0.92 to 1); active smoking (OR, 3.26; 95 percent CI, 1.09 to 9.76); initial nontreated contracture (OR, 4.9; 95 percent CI, 2.33 to 10.4) are associated with subsequent procedure on another digit in the same hand. Dominant hand initially treated (OR, 0.43; 95 percent CI, 0.24 to 0.76); initial nontreated contracture (OR, 4.67; 95 percent CI, 2.59 to 8.42) are associated with subsequent procedure on the contralateral hand. The detailed multivariable logistic regression can be found in tables 3-5.

**DISCUSSION AND CONCLUSION:** Within 5 years of initial treatment for Dupuytren contracture in one digit, patients have over 40% likelihood of future intervention for contracture. Patients have approximately a 10% likelihood of future treatment on another digit in the same hand and nearly a 25% likelihood of future treatment in the contralateral hand. Key risk factors include age, multiple digits treated, smoking, and presence of initially nontreated fingers, which should be incorporated into patient counseling.



**Table 3** Multivariable logistic regression model for the need for subsequent treatment in the same hand (n = 88)

	Odds ratio	95% confidence interval	P value
Procedure	3.28	(1.84, 5.82)	<.001
Multiple digits treated	1.91	(1.12, 3.23)	<.001
Initial nontreated contracture	2.19	(1.26, 3.8)	<.001

**Table 4** Multivariable logistic regression model for the need for subsequent treatment in the same hand (n = 35)

	Odds ratio	95% confidence interval	P value
Age	0.96	(0.92, 1)	<.001
Active smoking	3.26	(1.09, 9.76)	<.001
Initial nontreated contracture	4.9	(2.33, 10.4)	<.001

**Table 5** Multivariable logistic regression model for the need for subsequent treatment in the contralateral hand (n = 79)

	Odds ratio	95% confidence interval	P value
Dominant hand initially treated	0.43	(0.24, 0.76)	<.001
Initial nontreated contracture	4.67	(2.59, 8.42)	<.001