

Health-Related Quality of Life in Patients Undergoing Palmar Fasciectomy for Dupuytren's Disease

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Background: The present study was undertaken to assess the health-related quality of life in patients with Dupuytren's disease who undergo palmar fasciectomy.

Methods: A prospective cohort of patients with Dupuytren's disease undergoing palmar and/or digital fasciectomy was recruited from the practice of three plastic surgeons in Hamilton, Ontario, Canada. After written informed consent was obtained, participants were asked to complete three health-related quality-of-life questionnaires (i.e., Short Form-36, Michigan Hand Outcomes Questionnaire, and Health Utility Index Mark 3) at five time points: at 1 week and 1 day preoperatively, and at 1, 3, 6, and 12 months postoperatively. Ranges of motion and grip strength measurement were also recorded.

Results: For the 26 patients in the study, the multiattribute scores of the Health Utility Index Mark 3 improved from 0.80 before surgery to 0.83 at 12 months postoperatively ($p > 0.05$). There was no difference in the Short Form-36 scores, but the Michigan Hand Outcomes Questionnaire scores improved from 74 at 1 week preoperatively to 90 at the 12-month postoperative visit ($p < 0.001$).

Conclusions: Patients who undergo palmar fasciectomy for Dupuytren's disease experience a substantial improvement in their health-related quality of life 12 months after surgery. In the authors' study population, a benefit of 0.85 quality-adjusted life-year within 12 months was observed. This can be translated as follows: the average patient who undergoes palmar fasciectomy gains the equivalent of approximately 14.4 days (0.48 months) in perfect health by undergoing palmar fasciectomy. (*Plast. Reconstr. Surg.* 133: 1411, 2014.)

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, IV.

Dupuytren's disease is a common nonmalignant, fibroproliferative disease, with an estimated global prevalence of 0.2 to 56 percent.¹ It manifests as progressive and

irreversible tightening of the palmar and/or digital fascia, resulting in flexion contractures of the fingers. Subsequently, its management has been either observation for mild disease or excision of the contracted tissue (i.e., fasciectomy for more severe cases). More recently, less invasive techniques such as needle aponeurotomy and collagenase injections have been popularized.²⁻⁵

Traditionally, improvement in extension deficit of the metacarpophalangeal and proximal interphalangeal joints as measured with a goniometer has been used to assess the effectiveness of various surgical and nonsurgical treatment protocols.^{4,6-9} Grip and pinch strength have also been used occasionally for the same purpose.^{4,6,7} Although performance-based tests provide objectivity and reproducibility

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and are more sensitive to change,^{10,11} they do not evaluate the patient's perceived efficacy or level of limitations.^{11,12} When used alone, objective physiologic measures after surgery can be at best described as proxies for quality-of-life improvement. To obtain a holistic view of the effectiveness of the treatment intervention, a combination of patient-reported measures along with performance-based measures has been emphasized in the past two decades by the outcomes research movement.^{13,14} The use of quality-of-life scales to measure the outcome from the patient's perspective has been satisfactory in other areas of hand surgery, albeit not in Dupuytren's disease.¹⁵ Addressing this gap in knowledge will help patients, hand surgeons, and third-party payers make informed decisions.

The present study was undertaken to assess the health-related quality of life in patients with Dupuytren's disease who undergo palmar fasciectomy. The main research question we posed was the following: What is the health-related quality of life in patients who undergo palmar fasciectomy for Dupuytren's disease? The secondary question was: If there is improvement in health-related quality of life, can we quantify it, and what is it?

PATIENTS AND METHODS

Study Design

To answer the above questions, a prospective cohort of patients with Dupuytren's disease undergoing palmar and/or digital fasciectomy was recruited from the practice of three plastic surgeons (A.T., C.L., and S.M.) in Hamilton, Ontario, Canada, between 2007 and 2010. Detailed inclusion and exclusion criteria for participants are listed in Table 1.

All patients with the diagnosis of primary Dupuytren's disease were identified in the clinics and were approached to participate in the study. After written informed consent was obtained, participants were asked to complete three health-related quality-of-life questionnaires at five time points: at 1 week and 1 day preoperatively, and at 1, 3, 6, and 12 months

postoperatively. The questionnaires included the Health Utilities Index Mark 3,^{16,17} the Short Form-36,¹⁸ and the Michigan Hand Outcomes Questionnaire.¹⁹ The purpose of assessments at 1 week and 1 day before surgery was to establish the test-retest reliability of the three health-related quality-of-life questionnaires. The psychometric properties of these health-related quality-of-life questionnaires arising from this study are published elsewhere and are not considered further in this article. The study was approved by the Research Ethics Boards of McMaster University and St. Joseph's Healthcare, Hamilton, Ontario, Canada.

Health-Related Quality of Life

The outcome measures used can be classified as generic (Short Form-36), region-specific (Michigan Hand Outcomes Questionnaire), and utility (Health Utility Index Mark 3). The key characteristics of the three scales are further summarized in Table 2. Of the three scales used, the Health Utility Index Mark 3 provides utilities that can be transformed to quality-adjusted life-years, a health outcome measurement unit that integrates quality and quantity of life.^{20,21} Quality-adjusted life-years form an important component of cost-utility analysis, a variant of cost-effectiveness analysis. We consider this (cost-utility analysis) an important study design in the evaluation of novel interventions.^{20–22} Unfortunately, despite its usefulness, this outcome measure (quality-adjusted life-years) has not been embraced widely by the surgical community.

Clinical and Demographic Measures

Patient demographics and medical history were recorded at the baseline visit. The demographic information included age, sex, height (in meters), weight (in kilograms), employment history, affected side, and affected digit. The patients completed a set of performance-based tests, including range of motion recorded with a standard goniometer and grip strength measured with a Jamar dynamometer. Range of motion and grip strength of the surgical hand were measured three consecutive times, and an average of these values was used for final data analysis. The range of motion and grip strength measurements were performed by the study research coordinator at baseline and 12 months postoperatively.

Sample Size

The primary outcome for this study was the change in the Health Utility Index Mark 3 scores at 1 year after palmar fasciectomy. However, to our knowledge, the minimally clinically important

Table 1. Eligibility Criteria for the Study

Inclusion criteria
Patients with the diagnosis of Dupuytren's disease
Ability of patients to comprehend English
Exclusion criteria
Patients with previous surgery on the same hand
Patients with carpal tunnel syndrome, rheumatoid arthritis, connective tissue disorder, tenosynovitis, or another condition that could confound the assessment of health-related quality of life with regard to the affected hand
Patients younger than 18 yr

Table 2. Health-Related Quality-of-Life Measures

Instrument	Dimensions	No. of Items/Levels	Scoring	Interpretation
Health Utility Index Mark 3*	Eight: vision, hearing, speech, ambulation, dexterity, emotion, cognition, and pain	45; 5–6 items per attribute	The responses on the questionnaires (both HUI2 and HUI3) are converted into levels bases on a standardized algorithm	The utility scale being defined for interval –0.36 to 1.00; negative scores represent states that are considered worse than death by the participants; self-completed and interviewer-administered format
Short Form-36†	Eight: physical function, role physical, bodily pain, general health, vitality, social functioning, and role emotional and mental health	36	The final score on SF-36 can be interpreted as an eight-scale profile of scores or as a summary measure (i.e., physical component or mental component); the scoring for SF-36 is simple and constitutes an algebraic sum of all responses for the items in that scale; each scale is then converted into a 0–100 scale using a transformation formula	The scale of 0 represents lowest or worst possible level of functioning and 100 represents highest or best possible level of functioning
Michigan Hand Outcomes Questionnaire‡	Overall hand function, activities of daily living, pain, work performance, aesthetics, and patient satisfaction with hand function	37	The subjects respond to each question on every item on a Likert like scale ranging from 1–5; these responses are then added to give a domain score for each of six scales; each respondent must answer 50% or more of the items within the scale for responses to be considered sufficient; the scores from each scale are then converted to 0–100 based on algorithm (described elsewhere)	Higher scores represent better performance for all health domains but pain

HUI2, Health Utility Index Mark 2; HUI3, Health Utility Index Mark 3; SF-36, Short Form-36.

*Feeny D, Furlong W, Boyle M, Torrance GW. Multi-attribute health status classification systems: Health Utilities Index. *Pharmacoeconomics* 1995;7:490–502; and Furlong WJ, Feeny DH, Torrance GW, Barr RD. The Health Utilities Index (HUI) system for assessing health-related quality of life in clinical studies. *Ann Med*. 2001;33:375–384.

†Ware JE Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36): I. Conceptual framework and item selection. *Med Care* 1992;30:473–483.

‡Chung KC, Pillsbury MS, Walters MR, Hayward RA. Reliability and validity testing of the Michigan Hand Outcomes Questionnaire. *J Hand Surg Am*. 1998;23:575–587.

difference in Health Utility Index Mark 3 scores in patients who undergo palmar fasciectomy for Dupuytren's disease has not been established in the literature. Thus, a decision was made to base the sample size calculations on the minimally clinical important difference obtained from another study comparing two techniques for carpal tunnel surgery.²³ We hypothesized that a change of at least 0.17 in the Health Utility Index Mark 3 mean utility index with a standard deviation of 0.34 from baseline to 1 year after surgery must be observed for clinical relevance to be achieved.²³ A sample size of 33 patients was required to have a power of 0.8 and a one-sided level of significance of 0.05. An additional 20 percent of patients were added to the calculated sample size to account for potential loss to follow-up.

Statistical Analyses

The demographic information, health-related quality-of-life outcome scores, and performance

based tests were summarized using mean and standard deviation for all time points. Paired-sample *t* tests were conducted to assess the change from baseline to 12 months postoperatively. As all outcomes were in the interval data format, we adjusted the effects of multiple testing with a Bonferroni correction, and statistical significance was set at 0.001. Statistical analyses were conducted using the IBM SPSS Version 20 (IBM Corp., Armonk, N.Y.).²⁴ The utility scores were transformed to quality-adjusted life-years using the following formula^{20,22}:

Quality-adjusted life-years

$$= \text{Duration of health state} \times \text{Utility of health state.}$$

Quality-adjusted life-years measure quality and quantity of life.^{20,21} Quality-adjusted life-years gained are calculated by multiplying the difference in quality of life from before and after surgery by the remaining years of life of the average

patient. Statistics Canada data from 2011/2012 revealed that the average 65-year-old Canadian would live to the age of 81.1 years.²⁵ For example, if the utility of health state of a patient after treatment A at age 65 years is 0.06, the quality-adjusted life-year will be:

$$\begin{aligned} & \text{Quality-adjusted life-years} \\ &= \text{Duration of health state} \times \text{Utility of health state} \\ &= (81.1 - 65) \times 0.06 \\ &= 16.1 \times 0.06 \\ &= 0.966. \end{aligned}$$

This can be interpreted as a patient gaining an additional 0.966 year (i.e., approximately 12 months in perfect health) as a result of treatment A.

RESULTS

Patient Recruitment and Response Rates

Seventy-six patients with Dupuytren's disease who were on a waiting list for palmar fasciectomy were assessed for eligibility. The first patient was enrolled in May of 2007 and the last patient was enrolled in April of 2010. Of these 76 patients, 34 were excluded because they did not meet the inclusion criteria and three patients were missed because the study coordinator was unable to obtain baseline data (i.e., before surgery). Of the remaining 39 patients, six patients refused participation. Thus, 33 patients were included in the trial. Of these, seven patients did not complete the health-related quality-of-life questionnaires and functional assessments at baseline and 12 months. Three attempts were made to contact the patients before they were considered lost to follow-up. The primary outcome measure data at the 12-month follow-up visit were available for 26 patients. A detailed study of patient recruitment is given in Figure 1.

Patient Demographics and Clinical Outcomes

Demographics

The mean age of the patients undergoing palmar fasciectomy was 64.2 ± 7.3 years. The male-to-female ratio was 5.6:1, with 85 percent of patients being men. This finding is consistent with the literature, where a higher proportion of the affected population (range, 3:1 to 9.5:1) being men has been reported in North America.²⁶ The mean body mass index was 30.8 ± 6.0 kg/m², and 29 percent of the patients were employed at the time of enrolment in the

study (Table 3). Overall, 41 surgical digits were affected by Dupuytren's disease. The distribution of digits involved is shown in Table 4. The mean operating room time for palmar fasciectomy was 44.9 ± 24.5 minutes.

Patient-Reported Outcome Measures

Utility Measure: Health Utility Index Mark 3

Of the eight attributes of the Health Utility Index Mark 3, only "dexterity" showed statistically significant improvement from 1 week before surgery to the 12-month follow-up visit ($p < 0.001$). The mean dexterity score at baseline improved from 0.88 to 0.96 at 12 months postoperatively, with the difference being 0.08. The minimal clinically important difference for individual attributes of the Health Utility Index Mark 3 has been reported to be 0.05^{16,17}; therefore the observed improvement is clinically important.²⁷ When the Health Utility Index Mark 3 mean scores for individual attributes for "no problems" (i.e., a score of 1.00) were compared with the patients' mean scores at 1 week before surgery, the differences were found to be as follows: vision, 0.04; hearing, 0.02; speech, 0.00; cognition, 0.00; ambulation, 0.03; dexterity, 0.12; emotion, 0.03; and pain, 0.01.

The multiattribute score of the Health Utility Index Mark 3 improved from 0.80 before surgery to 0.83 at 12 month postoperatively. This difference, although clinically important,²⁷ was not found to be statistically significant ($p = 0.329$).

Generic Health Measure: Short Form-36

No significant differences in the mean Short Form-36 scores for physical and mental health components were seen in patients before compared with after surgery (Table 5).

Condition-Specific Measure: Michigan Hand Outcomes Questionnaire

The mean Michigan Hand Outcomes Questionnaire scores improved from 74 at 1 week preoperatively to 90 at 12 months after palmar fasciectomy. This difference was found to be clinically important and statistically significant ($p < 0.001$) (Table 5).

Performance-Based Tests

Range of Motion

In the surgical group, in terms of range of motion, 27 metacarpophalangeal joints had a mean contracture of 35.8 ± 13.9 degrees. At 12 months postoperatively, 26 of 27 of patients (96 percent) had full range of motion, and the patient who did not gain full range of motion had a loss of extension of 5 degrees. Twenty-three proximal interphalangeal joints had a mean contracture of 42.9 ± 24.9 degrees before surgery (Table 6). At 12

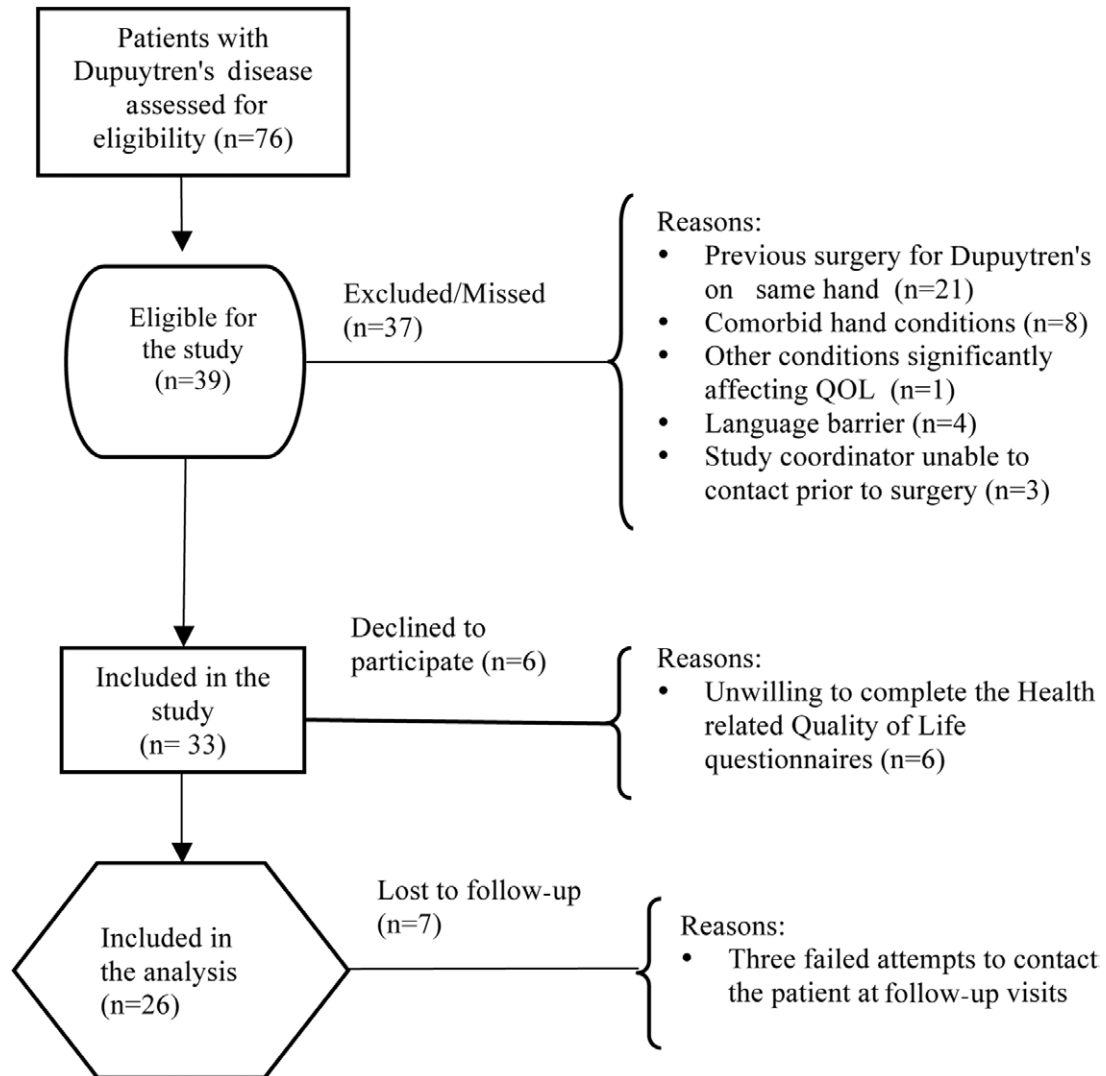


Fig. 1. Patient flow diagram. QOL, quality of life.

months postoperatively, eight of 19 patients (42 percent) had full range of motion. Of the patients who did not gain full range of motion, the average patient gained 37 ± 18 degrees of range of motion, with a mean loss of extension of 15 ± 20 degrees. Only two patients had a loss of extension in the

distal interphalangeal joint of 15 and 20 degrees, respectively. Both patients gained full range of motion at 12 months postoperatively (Table 6).

Grip Strength

Grip strength data were available for 21 patients at baseline and at the 12-month follow-up visit. No significant change was observed from baseline to 12 months (Table 7).

Table 3. Patient Characteristics

Characteristic	Value
No. of patients	33
Age, yr	64.2 \pm 7.3
Sex	
Male-to-female ratio	5.6:1
% male	85
BMI, kg/m ²	30.8 \pm 6.0
Employment status	
Working-to-nonworking ratio	9:22
Working, %	29

BMI, body mass index.

Table 4. Distribution of Involved Digits

Characteristic	Value
No. of patients	33
Digit involved	
Index finger	1
Middle finger	5
Ring finger	13
Little finger	22
Total digits	41

Table 5. Health Utility Index Mark 3, Short Form-36, and Michigan Hand Outcomes Questionnaire Scores of Patients with Dupuytren’s Disease Undergoing Palmar Fasciectomy

	1 Week Preoperatively (mean ± SD)	1 Month Postoperatively (mean ± SD)	3 Month Postoperatively (mean ± SD)	6 Month Postoperatively (mean ± SD)	12 Month Postoperatively (mean ± SD)	<i>p</i>
HUI3						
Multiattribute score	0.80 ± 0.19	0.79 ± 0.19	0.83 ± 0.19	0.82 ± 0.22	0.83 ± 0.21	0.329
Vision attribute score	0.96 ± 0.02	0.96 ± 0.02	0.96 ± 0.02	0.96 ± 0.02	0.94 ± 0.07	0.473
Hearing attribute score	0.98 ± 0.10	0.98 ± 0.09	0.98 ± 0.10	0.98 ± 0.10	0.94 ± 0.21	0.241
Speech attribute score	1.00 ± 0.00	1.00 ± 0.00	1.00 ± 0.00	1.00 ± 0.00	1.00 ± 0.00	—
Cognition attribute score	1.00 ± 0.01	1.00 ± 0.02	0.98 ± 0.04	0.98 ± 0.06	0.99 ± 0.02	0.161
Ambulation attribute score	0.97 ± 0.08	0.97 ± 0.07	0.97 ± 0.08	0.98 ± 0.07	0.96 ± 0.17	0.652
Dexterity score	0.88 ± 0.13	0.86 ± 0.16	0.92 ± 0.16	0.94 ± 0.16	0.96 ± 0.07	<0.001*
Emotion attribute score	0.97 ± 0.06	0.97 ± 0.07	0.96 ± 0.08	0.94 ± 0.15	0.98 ± 0.06	0.327
Pain attribute score	0.88 ± 0.21	0.87 ± 0.11	0.92 ± 0.12	0.90 ± 0.14	0.89 ± 0.14	0.589
SF-36						
Physical summary score	48 ± 9	47 ± 8	48 ± 9	48 ± 8	48 ± 8	0.497
Mental summary score	57 ± 6	56 ± 8	57 ± 5	56 ± 9	56 ± 8	0.696
MHQ						
	74 ± 15	75 ± 21	85 ± 12	85 ± 18	90 ± 16	<0.001*

HUI3, Health Utility Index Mark 3; SF-36, Short Form-36; MHQ, Michigan Hand Outcomes Questionnaire.

*Statistically significant.

Table 6. Loss of Extension of Digits Affected by Dupuytren’s Contracture at 1 Week before Palmar Fasciectomy and 12 Months Postoperatively

Joint	Loss of Extension	
	Preoperatively	12 Months Postoperatively
MCP		
Mean ± SD, degrees	35.8 ± 13.9	0.2 ± 0.9
Range, degrees	10–70	0–5
No. of joints	38	27
PIP		
Mean ± SD, degrees	42.9 ± 24.9	37.3 ± 22.8
Range, degrees	10–90	0–67
No. of joints	23	19
DIP		
Mean ± SD, degrees	17.5 ± 3.5	0 ± 0
Range, degrees	15–20	0
No. of joints	2	2

MCP, metacarpophalangeal; PIP, proximal interphalangeal; DIP, distal interphalangeal.

Table 7. Grip Strength of the Surgical Hand Affected by Dupuytren’s Contracture at 1 Week before Palmar Fasciectomy and 12 Months Postoperatively

	Baseline	12-Month Follow-Up	Change in Grip Strength
Mean ± SD, kg	29.6 ± 24.0	29.1 ± 8.4	0.1 ± 4.3
Range, kg	12.0–48.7	12.7–48.0	–10.0–6.7
No. of patients	24	22	21

Quality-Adjusted Life-Years

Quality-adjusted life-years were calculated using the mean Health Utility Index Mark 3 scores from Table 5 for baseline and 12-month follow-up for the study patients. Based on the formula described

above, we found that a patient with Dupuytren’s disease undergoing palmar fasciectomy gained 0.85 quality-adjusted life-year within 12 months postoperatively. This can be translated as follows: the average patient who undergoes palmar fasciectomy gains the equivalent of 0.48 month in perfect health by undergoing palmar fasciectomy.

DISCUSSION

Several studies in the past have demonstrated the effectiveness of palmar fasciectomy on the performance-based measures in Dupuytren’s disease²⁸; however, ours is the first study to prospectively measure the utilities in patients undergoing surgical management for Dupuytren’s disease using patient-based data. In addition, our study significantly adds to the limited evidence that exists for the use of self-reported outcome measures in Dupuytren’s disease and provides the platform on which future randomized studies can be based. The effect size identified in this study can be used as the minimal clinical important difference to calculate the sample size in future randomized controlled trials.²⁹

The utility score, which can be transformed to quality-adjusted life-years, is of value to investigators interested in cost-effectiveness analysis.³⁰ For example, one may wish to determine whether collagenase is more cost-effective than palmar fasciectomy from the patient, third-party payer, or societal perspective. Our study determined that patients with Dupuytren’s disease who undergo palmar fasciectomy gain an average utility of 0.04, which translates to a patient living an extra 14 days (0.48 months) in perfect health. This utility gain of 0.04 following palmar fasciectomy is a clinically

important gain for the average patient. It compares favorably with other reported conditions. For instance, carpal tunnel surgery patients gain 0.08 at 3 months postoperatively³¹; and patients with rheumatoid arthritis gain 0.10 following total wrist arthroplasty.³² For conditions other than the hand, published studies of patients having undergone cataract surgery have demonstrated utility gains between 0.08 and 0.1,³³ and studies measuring the mean improvement knee arthroplasty reported gains of 0.084³⁴ and 0.04 for rotator cuff repair.³⁵ In plastic surgery, breast reduction has been reported to result in gains of 0.13 at 1 year after surgery.³⁶

We did not find any improvement according to the Short Form-36 (generic measure), although the Michigan Hand Outcomes Questionnaire (condition-specific measure) showed a clinically large and statistically significant change. We believe that this observed variability between the health-related quality-of-life measures can be attributed to the nature of the health-related quality-of-questionnaires. Because the Michigan Hand Outcomes Questionnaire is a hand-specific questionnaire,¹⁹ it is able to detect improvements localized to the hand and wrist joints, as opposed to the Short Form-36, which is more relevant to general health improvements. As Dupuytren's disease is a localized condition and, depending on the age, occupation, and sex of the patient, can be perceived as more/less disabling, the Michigan Hand Outcomes Questionnaire was able to detect improvements not detected by the Short Form-36. However, we decided to include the triad of outcomes measures based on our review of the literature. At the time the study was designed, no quality-of-life scale specific to Dupuytren's disease existed in the literature. The Unité Rhumatologique des Affections de la Main, a validated, patient-reported outcomes measure specific to Dupuytren's disease, was developed during the course of the study.³⁷ Our research team felt that introducing the Unité Rhumatologique des Affections de la Main halfway through the study would confound the results. We recommend that future investigators consider using the Unité Rhumatologique des Affections de la Main in Dupuytren's disease quality-of-life studies to confirm its reliability and validity.

One of the limitations of our study is the small sample size. Although we were able to recruit the number of patients required according to a priori sample size calculations, our estimated change in Health Utility Index Mark 3 multiattribute score of 0.17 was four times greater than the change in utility we actually observed. This significantly reduces the power of the study and thus weakens the validity

of the findings. Seven of 33 patients (21 percent) included in the study were lost to follow-up. A post hoc analysis revealed that the demographics of the patients who completed the study did not differ significantly compared with patients lost to follow-up. There might be unknown confounding factors that might have led to the dropouts. We believe clinical investigators need to devise motivational approaches to enhance recruitment and minimize the dropout rate.

Furthermore, by examining health-related quality of life at 1 year after palmar fasciectomy, we made the assumption that health-related quality of life is stable at 1 year and will remain stable for the duration of the patient's lifetime. Theoretically, this might be true for other hand surgical conditions; however, Dupuytren's disease is characterized by a high rate of recurrence even following surgical intervention, especially those with Dupuytren's diathesis.^{38,39} Thus, even though none of the patients in the study developed recurrence in the time horizon of the study, we are cognizant of this limitation in a more clinical sense. Future long-term follow-up studies must be designed to overcome this limitation.

CONCLUSIONS

Our study fills a gap in knowledge regarding the impact of palmar fasciectomy for Dupuytren's disease on health-related quality of life. The quality-adjusted life-years identified in the present study provide useful information for future investigators who may be interested in performing comparative economic evaluations of the different approaches to this condition. These may include surgical techniques and less invasive approaches such as needle aponeurotomy and collagenase injections. Future studies with larger samples of patients and using the Dupuytren's-specific scale Unité Rhumatologique des Affections de la Main will enhance our understanding of the benefit of palmar fasciectomy in Dupuytren's disease.

CODING PERSPECTIVE



This information provided by Dr. Raymund Janevicius is intended to provide coding guidance.

26121 Fasciectomy, palm only, with or without Z-plasty, other local tissue rearrangement, or skin grafting (includes obtaining graft)

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26123 Fasciectomy, partial palmar with release of single digit including proximal interphalangeal joint, with or without Z-plasty, other local tissue rearrangement, or skin grafting (includes obtaining graft)

+26125 Fasciectomy, partial palmar with release of single digit including proximal interphalangeal joint, with or without Z-plasty, other local tissue rearrangement, or skin grafting (includes obtaining graft); each additional digit (list separately in addition to code for primary procedure)

- If the Dupuytren's disease is confined to the palm, then the palmar fasciectomy is reported with code 26121.
- If palmar fasciectomy includes excision of Dupuytren's cords and nodules in a single digit, then code 26123 is used alone. Code 26123 is *not* reported with code 26121.
- The excision of Dupuytren's for each additional digit is reported with code 26125. This is reported *in addition to* code 26123. Code 26125 is an add-on code and is always reported with code 26123. Moreover, one does not append modifier 51 to add-on codes. Thus, palmar fasciectomy, including excision of Dupuytren's of the middle, ring, and small fingers, is reported as follows:

26123 Palmar fasciectomy, including middle finger

26125 Additional finger, ring finger

26125 Additional finger, small finger

- All three of these codes include local flaps and skin grafts, if placed. Thus, palmar fasciectomy, including the ring finger, with Z-plasty reconstruction is reported as follows:

26123 Palmar fasciectomy, including ring finger, including Z-plasty

- The adjacent tissue transfer code, 14040, is not separately reported for the Z-plasty. Local flaps are included in the global Dupuytren's codes.

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