

Development and Testing of an Expectations Survey for Patients Undergoing Foot and Ankle Surgery

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Introduction/Purpose: Functional outcomes scores routinely used in orthopedic research are limited in that they are developed solely from a surgeon's perspective. Very few studies have investigated patients' expectations from foot and ankle surgery. Many authors have reported on patient satisfaction, but rarely on expectations, which may vary widely between patients and even strongly affect satisfaction. In this cross-sectional study, we aimed to develop and test a patient-derived expectations survey for patients undergoing foot and ankle surgery.

Methods: Using a three-phase process, we developed and tested a patient-derived expectations survey. Patients with a wide spectrum of foot and ankle diagnoses were enrolled, including the major diagnoses of ankle arthritis, ankle instability, ankle osteochondral lesions, flatfoot deformity, hallux valgus, and hallux rigidus. In phase 1, patients were interviewed preoperatively with open-ended questions about their expectations from surgery. Responses were independently assessed by three reviewers using qualitative techniques. Major concepts were grouped into categories which were used to form a draft survey. In phase 2, the survey was administered to preoperative patients on two occasions to establish test-retest reliability. In phase 3, the final survey items were selected based on weighted kappa values for response concordance and clinical relevance, and a scoring rubric was developed.

Results: In phase 1, 94 preoperative patients with diverse foot or ankle pathology (mean age 50 ± 15 years, 63% women) volunteered 655 expectations. 29 representative categories were discerned by qualitative analysis and became the draft survey. In phase 2, another 60 patients (mean age 55 ± 15 years, 60% women) completed the draft survey twice preoperatively, separated by an average of 4 days. In phase 3, 23 items were retained for the final survey. For retained items, the average weighted kappa value was 0.54 (Table). An overall score is calculated based on the number of expectations and the amount of improvement expected and ranges from 0-100, with higher scores indicating more expectations. For patients in phase 2, mean scores for both administrations were 65 and 66 and approximated normal distributions. Cronbach alpha coefficients were 0.88 and 0.90, and the intraclass correlation coefficient between scores was 0.78.

Conclusion: We developed a patient-derived survey specific to foot and ankle surgery that is valid, reliable, and applicable to diverse diagnoses. It measures physical as well as psychological expectations, encompassing symptoms, function, mobility, work and social activities, exercise/sports, pain medications, footwear, and appearance. The survey generates an overall score that is easy to calculate and interpret, and thus offers a practical and comprehensive way to record patients' expectations. In the future, this survey may be used as a means to assess patient satisfaction with surgery as determined by the fulfillment of their expectations.

Table. Items chosen for the final expectations survey are listed as they appear on the survey. Frequency of citation by patients and weighted kappa value for test-retest reliability are listed for each. Kappa values of at least 0.40 indicate acceptable concordance between scores. Lower kappa values may be seen in cases with a very high frequency of citation.

Expectation item	Frequency	Weighted kappa value
Improve pain at rest	83%	0.40
Improve ability to walk longer or farther	95%	0.61
Improve ability to walk on uneven ground (such as banked sidewalks, cobblestones)	95%	0.59
Improve ability to walk fast or run if necessary (such as cross the street quickly)	93%	0.65
Improve gait or decrease limp	80%	0.46
Improve foot/ankle flexibility	75%	0.50
Improve foot/ankle balance and stability	88%	0.45
Improve numbness or tingling	47%	0.53
Decrease swelling	63%	0.67
Improve ability to go up or down stairs	82%	0.61
Improve ability to exercise for fitness	97%	0.48
Improve ability to run for sports or exercise	70%	0.62
Improve ability to fulfill work duties	57%	0.55
Not need pain medications	63%	0.51
Increase variety of shoe options	83%	0.69
Participate more in social/family activities	60%	0.68
Improve ability to perform daily activities or household chores	77%	0.49
Improve ability to commute or drive	38%	0.53
Improve appearance of foot or toes	70%	0.54
Improve confidence in foot/ankle	97%	0.40
Go back to normal again	97%	0.55
Decrease pain elsewhere (such as hips, back) because compensating for foot/ankle	77%	0.67
Prevent foot/ankle from getting worse	98%	0.22