

Surgeons' Preoperative Expectations Predict Fulfillment of Patients' Expectations Two Years After Lumbar Surgery

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Background

- Expectations for improvement are a major factor in the decision to undergo elective lumbar surgery.
- Thus fulfillment of expectations should be an important outcome.
- However fulfillment of expectations traditionally has not been studied because valid methods to measure this outcome were lacking.
- Surgeons' perspectives regarding expectations for improvement also have not been traditionally measured.
- Thus the degree to which surgeons' expectations for improvement match actual postoperative improvement is not known.

Objective

The objectives of this longitudinal study were:

1. to measure agreement between the patient-surgeon pair regarding preoperative expectations for improvement from lumbar surgery
2. to determine two years postoperatively if actual improvement, or fulfillment of expectations, more closely matched patients' or surgeons' expectations

Methods

Several days before surgery:

- consecutive patients completed the valid Lumbar Spine Surgery Expectations Survey
- for each patient, his/her surgeon independently completed the physicians version of the survey

Patient Characteristics (n = 277)	
Age	54
Men	52%
Degenerative condition	84%

Surgeon Characteristics (n = 5)	
Age	37 - 59
Completed spine fellowship	5
Years in practice	4-27

HOSPITAL FOR SPECIAL SURGERY LUMBAR SPINE SURGERY EXPECTATIONS SURVEY

Please circle the number that best describes your response to each question.

How much improvement do you expect in the following areas as a result your spine surgery?

	Back to normal or complete improvement	Not back to normal, but...			I do not have this expectation, or this expectation does not apply to me
		a lot of improvement	a moderate amount of improvement	a little improvement	
Relieve pain	1	2	3	4	5
Relieve symptoms that interfere with sleep	1	2	3	4	5
Improve ability to walk more than several blocks	1	2	3	4	5
Improve ability to sit more than half an hour	1	2	3	4	5
Improve ability to stand more than half an hour	1	2	3	4	5
Regain strength in legs	1	2	3	4	5
Improve balance	1	2	3	4	5
Improve ability to go up and down stairs	1	2	3	4	5
Improve ability to manage personal care (such as, dress, bathe)	1	2	3	4	5
Improve ability to drive	1	2	3	4	5
Remove need for pain medications	1	2	3	4	5
Improve ability to interact with others (such as, social and family activities)	1	2	3	4	5
Improve sexual activity	1	2	3	4	5
Improve ability to perform daily activities (such as, chores, shopping, errands)	1	2	3	4	5
Improve ability to exercise for general health	1	2	3	4	5
Remove restrictions in activities (such as, be more mobile, not have to rest every few minutes)	1	2	3	4	5
If currently employed: Fulfill job responsibilities (such as, work required hours, complete expected tasks)	1	2	3	4	5
If currently work-disabled or unemployed due to spine: Go back to work for salaried employment	1	2	3	4	5
Reduce emotional stress or sad feelings	1	2	3	4	5
Stop my spine condition from getting worse	1	2	3	4	5
Remove the control my spine condition has on my life	1	2	3	4	5

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Patients' Survey

Amount of improvement	Points
complete	4
lot	3
moderate	2
little	1
do not have expectation	0

$$\text{Pt Score} = \frac{\text{sum of patient's points}}{\text{maximum possible points}} \times 100$$

$$= \frac{\text{sum of patients' points}}{4 \times 20} \times 100$$

Possible **score** range 0 – 100

(higher score is greater expectations)

HOSPITAL FOR SPECIAL SURGERY LUMBAR SPINE SURGERY EXPECTATIONS SURVEY

Physician
Response
Version

Please circle the number that best describes your response to each question.

How much improvement do you expect your patient will have in the following areas as a result of this spine surgery?

	Back to normal or complete improvement	Not back to normal, but...			I do not have this expectation for my patient, or this expectation does not apply to my patient
		a lot of improvement	a moderate amount of improvement	a little improvement	
Relieve pain	1	2	3	4	5
Relieve symptoms that interfere with sleep	1	2	3	4	5
Improve ability to walk more than several blocks	1	2	3	4	5
Improve ability to sit more than half an hour	1	2	3	4	5
Improve ability to stand more than half an hour	1	2	3	4	5
Regain strength in legs	1	2	3	4	5
Improve balance	1	2	3	4	5
Improve ability to go up and down stairs	1	2	3	4	5
Improve ability to manage personal care (such as, dress, bathe)	1	2	3	4	5
Improve ability to drive	1	2	3	4	5
Remove need for pain medications	1	2	3	4	5
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Improve sexual activity	1	2	3	4	5
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If currently work-disabled or unemployed due to spine: Go back to work for salaried employment	1	2	3	4	5
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Stop my spine condition from getting worse	1	2	3	4	5
Remove the control my spine condition has on my life	1	2	3	4	5

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Physicians' Survey

Amount of improvement	Points
complete	4
lot	3
moderate	2
little	1
do not have expectation	0

$$\text{MD Score} = \frac{\text{sum of physician's points}}{\text{maximum possible points}} \times 100$$

Possible score range 0 – 100

Objective 1: measure agreement between patients' and surgeons' Expectations Survey scores

Expectations Survey scores (mean)	
Patients	Surgeons
73	56

Direction of difference
86% patients had higher expectations than their surgeons
3% patients had the same expectations as their surgeons
11% patients had lower expectations than their surgeons

Agreement within patient-surgeon pair
Intraclass correlation coefficient = .36

Strength of correlation

0-.2 poor, **.2-.4 fair**, .4-.6 moderate, .6-.8 good, .8 -1 excellent

Longitudinal follow-up

Two years after surgery:

- patients contacted by telephone
- completed the follow-up version of the survey

Proportion of improvement calculated based on each expectation cited preop...

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Follow-up

LUMBAR SPINE SURGERY EXPECTATIONS SURVEY

Please circle the number that best describes your response to each question.

How much relief or improvement did you receive in the following areas as a result your spine surgery?

	Back to normal or complete improvement	Not back to normal, but...			No improvement at all
		a lot of improvement	a moderate amount of improvement	a little improvement	
Relieve pain	1	2	3	4	5
Relieve symptoms that interfere with sleep	1	2	3	4	5
Improve ability to walk more than several blocks	1	2	3	4	5
Improve ability to sit more than half an hour	1	2	3	4	5
Improve ability to stand more than half an hour	1	2	3	4	5
Regain strength in legs	1	2	3	4	5
Improve balance	1	2	3	4	5
Improve ability to go up and down stairs	1	2	3	4	5
Improve ability to manage personal care (such as, dress, bathe)	1	2	3	4	5
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Amount of improvement	Points
complete	4
lot	3
moderate	2
little	1
none	0

Proportion = $\frac{\text{sum of postop points (received)}}{\text{sum of preop points (expected)}}$

Proportion	Fulfillment
0	none
.01 - .99	some
1	as expected
> 1	surpassed

Results: Proportion of expectations fulfilled

Mean proportion of expectations fulfilled: .79 (range 0-2) *	
Proportion fulfilled	Percent of patients
> 1 (surpassed)	17%
= 1 (as expected)	10%
= .01 - .99 (some)	69%
= 0 (none)	4%

* For 67% of patients proportion met a clinically important difference

Objective 2: to determine if actual improvement more closely matched patients' or surgeons' expectations

$$\text{Patient Proportion} = \frac{\text{patient-reported postop improvement received}}{\text{patient-reported preop improvement expected}} = .79$$

$$\text{Surgeon Proportion} = \frac{\text{patient-reported postop improvement received}}{\text{surgeon-reported preop improvement expected}} = .96$$

Compared to patients' expectations, surgeons' expectations more closely matched actual patient-reported improvement at two years.

Conclusions

Most patients had greater preoperative expectations than their surgeons.

Most patients met a minimum clinically important difference for fulfillment of expectations.

Surgeons' expectations more closely matched actual improvement at two years.

These findings have several implications for clinical practice including whether the surgeon's accurate prediction of patient-reported outcomes is a novel indicator of quality of care.

Disclosure

None of the authors has any potential conflict of interest