

2018

Identifying Foot and Ankle Patients at Risk to Fall Based on Patient Reported Outcomes Assessments

Judith Baumhauer

Jack Teitel

Allison Mclntyre

David Mitten

Jeff Houck

Follow this and additional works at: https://digitalcommons.georgefox.edu/pt_fac



Part of the [Physical Therapy Commons](#)

Identifying Foot and Ankle Patients at Risk to Fall Based on Patient Reported Outcomes Assessments

Judith Baumhauer, MD, MS, MPH, Jack Teitel, MS, Allison McIntyre, MD, David Mitten, MD, Jeff Houck, PhD

Category: Other

Keywords: Falls Risk, Quality Indicator; PROMIS; Patient Reported Outcomes

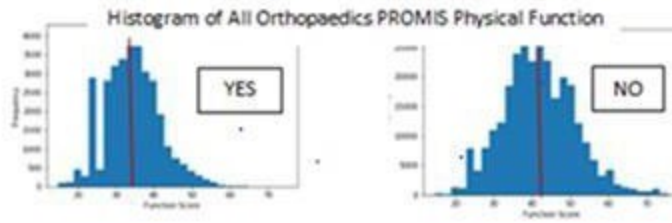
Introduction/Purpose: Each year approximately 30-40% of people over the age of 65 fall. Approximately one half of these falls result in an injury with the estimated annual direct medical costs of \$30 billion. Pain, mobility issues, neuropathy and post-operative weight bearing limitations make foot and ankle patients particularly vulnerable to falls. Current approaches to determine at risk patients are cumbersome and time consuming requiring performance testing and “hands on” clinical assessment. The efficiency of obtaining PRO, such as PROMIS, in the clinical arena has been well documented. The purpose of this study is determine if patient reported outcomes (PROMIS) can identify orthopaedic and specifically foot and ankle patients at risk to fall.

Methods: Prospective patient reported outcomes (PROMIS CAT physical function, pain interference and depression and CMS fall risk assessment questions) and patient demographics were collected for all patients at each clinic visit from an academic orthopaedic multi-specialty practice between January 2015 and November 2017. Standardized yes/no validated self-reported fall risk questions include: “Have you fallen in the last year?” and “Do you feel you are at risk of falling?” Histograms, t-tests, confidence intervals and effect size were used to determine the fall risk “YES” patients were different than the “NO” for ALL orthopaedic patients and specifically foot and ankle patients. Logistic Regression was used to determine if age, gender, height, weight, and PROMIS scales predicted self-reported falls risk.

Results: 94,761 orthopaedic patients comprising 315,273 visits (44% male, mean age 53.7+/-17 years) and 13,720 foot/ankle patients comprising 33,480 visits (37% male, mean age 52.7+/-16.1 years) had complete data for analysis. Table 1 provides the means/SD/p-values/effect sizes for patient self-identifying at risk to fall stratified by PROMIS PF/ PI/Dep t-scores. Although all PROMIS scores demonstrated significant impairment between patients at risk designation (yes/no), PROMIS PF had the largest effect size for ALL Ortho and FOOT AND ANKLE patients (0.8 and 0.7 respectively). Patients who are at risk to fall have PROMIS PF t-scores >1.5 lower than the United States normative population while the patients not at risk are less <1 SD. In the adjusted regression models gender and PROMIS PF had the largest coefficients.

Conclusion: Falls are a major threat to quality of life and independence yet prevention/treatment strategies are difficult to implement across a health system. There is also a tremendous societal cost with orthopaedic surgeons often the recipient of these debilitated patients. PROMIS assessments are part of the AOFAS OFAR initiative to track patient recovery with treatment and can additionally be used to fulfill a quality indicator requirement by CMS. This study demonstrates these assessments (PROMIS threshold values) can also be linked to self-report falls risk (yes/no) and may identify patients at risk with no face to face time required from the provider.

Do you feel you are at risk for falling?



All Orthopaedics							
Scale	Group	N	M (SD)	t	p	95% CI	Cohen's d
<i>Depression</i>							
Do you feel at risk of falling?	Yes	33,110	55.1 (10.3)	116.098875	< 0.001	6.9 - 7.1	0.7 (medium)
	No	282,163	48.2 (10.2)				
	Total	315,273	49.9 (10.5)				
<i>Pain</i>							
Do you feel at risk of falling?	Yes	33,110	64.6 (7.5)	122.21664	< 0.001	5.3 - 5.5	0.7 (medium)
	No	282,163	59.2 (8.3)				
	Total	315,273	59.8 (8.4)				
<i>Physical Function</i>							
Do you feel at risk of falling?	Yes	33,110	34.4 (7.2)	170.27435	< 0.001	7.3 - 7.5	0.8 (large)
	No	282,163	41.8 (9.3)				
	Total	315,273	41.0 (9.4)				
Foot & Ankle only							
Scale	Group	N	M (SD)	t	p	95% CI	Cohen's d
<i>Depression</i>							
Do you feel at risk of falling?	Yes	3,188	54.1 (10.8)	30.8	< 0.001	5.8 - 6.5	0.6 (medium)
	No	30,292	48.0 (10.1)				
	Total	33,480	48.6 (10.3)				
<i>Pain</i>							
Do you feel at risk of falling?	Yes	3,188	64.6 (7.5)	29.4	< 0.001	4.4 - 5	0.5 (medium)
	No	30,292	59.2 (8.3)				
	Total	33,480	58.9 (8.7)				
<i>Physical Function</i>							
Do you feel at risk of falling?	Yes	3,188	34.2 (7.7)	43.1	< 0.001	6.0 - 6.6	0.7 (medium)
	No	30,292	40.4 (9.4)				