

Current Solutions in Shoulder Elbow Surgery
Tampa, Florida
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Selection of Shoulder Outcomes Scores and Where From Here to the Future

Richard J. Hawkins, M.D.

Steadman Hawkins Clinic of the Carolinas
Hawkins Foundation
Greenville, South Carolina



Disclosure Richard J. Hawkins, MD

Hawkins Foundation:

Greenville Health System
DJO Surgical
Arthrosurface
Smith & Nephew
Neurotech

Pacira
ArthroCare
Euflexxa
Breg
Arthrex

Consulting Agreement:

DJO Surgical
Arthrex
Pacira

Royalties:

Lippincott, Williams & Wilkins
Ossur

Introduction

Discuss

- Value Committee with Outcomes Sub-Committee
- Defining quality
- Why measure outcomes performance?
- How we are now measured – agencies involved
- Charge to Committee from ASES Presidential line to analyze and recommend outcomes scores
- **Describe the process and define terms**
- Eventual recommendations
- The Future (Gov't., CMS, etc.)

Outcomes Subgroup Members

Richard Hawkins, MD, Subgroup Lead

- Bernard Morrey, MD
- John (JT) Tokish, MD
- Guido Marra, MD
- Scott Steinmann, MD
- Ted Schlegel, MD
- Chuck Thigpen, PhD, PT, ATC

Ex-officio members:

- Rob Bell, MD
- Bill Mallon, MD

Introduction

- Michael Porter and Robert Kaplan (Harvard economists) and others, suggest in the future, we doctors/surgeons will be defined by quality (outcomes).
- Value = the best outcomes at the lowest cost
- **Cost** remains the driver and will always be the driver.

Introduction

- Secretary of Health and Human Services, Sylvia Burwell, wishes value based pricing and value based reimbursement up to 90% by the year 2018.

Why Collect Scores?

- Physicians will be judged on quality in the future
- We need to know the outcome of treating our own patients
- Payors and agencies will demand it
- If we don't do it, others will do it
- Get ahead of government, CMS, and other agencies

Present Agencies and Programs Upon Which We Are Graded

(P4P – Pay for Performance)

- HCAPS and CCAPS – consumer perception of hospital and doctor's office care
- Healthgrades.com
- RateMDs.com
- YELP
- Skip Measures (surgical care) – Hospital risk 2%
- Meaningful Use Criteria (Obamacare)
- CMS – PQRS (Patient Quality Reporting System) (Financial Bump for Medicare Part B)
- Force TJR – CMS bonus if submitted to Force

Committee Charge

- Research, define, establish, and recommend scoring systems to ASES and the community at large

1. Basic Package
2. Robust – Research Package

Joint Registries

- We have a subcommittee to establish registries.
- Present registries are broad and document such things as **complications, re-admissions, devices, etc.**
- At some point we might combine registries with patient outcome scores – providing breath and depth.

(Total Joints – Good Fit)

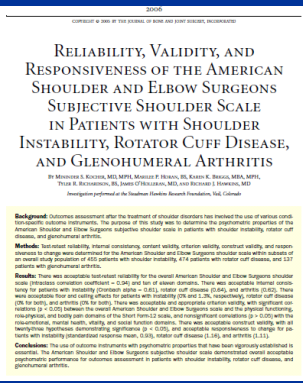
Process

Committee members reviewed several papers and reports, particularly assessing the **psychometrics** of all the shoulder and elbow scoring systems including

Psychometrics

- Responsiveness
- Reliability
- Validity
- Ability to detect change in a reasonable manner
 - (MCID) (MIC) Measuring clinical change
 - (MDC) (SDC) Measuring statistical change

Materials for Committee



Materials for Committee

Measures of adult shoulder function: Disabilities of the Arm, Shoulder, and Hand Questionnaire... Page 1 of 16

Measures of Pathology and Symptoms
You have full text access to this OnlineOpen article

Measures of adult shoulder function: Disabilities of the Arm, Shoulder, and Hand Questionnaire (DASH) and Its Short Version (QuickDASH), Shoulder Pain and Disability Index (SPADI), American Shoulder and Elbow Surgeons (ASES) Society Standardized Shoulder Assessment Form, Constant (Murley) Score (CS), Simple Shoulder Test (SST), Oxford Shoulder Score (OSS), Shoulder Disability Questionnaire (SDQ), and Western Ontario Shoulder Instability Index (WOST)

1. Felix Angel^{1*},
2. Hans Kampfe Schryer^{2†},
3. André Anselmino^{3†},
4. Blou R. Smeets^{4†} and
5. Jörg Goldhahn⁵

Article first published online 7 NOV 2011



Materials for Committee

REVIEW ARTICLE

Evaluation of shoulder-specific patient-reported outcome measures: a systematic and standardized comparison of available evidence

Stefanie Schmidt, MPH^{1,2,3}, Montse Ferrer, PhD, MD^{4,5,6,*}, Marta Gonzalez, PhD^{4,7}, Kereia Gonzalez, PhD^{4,7}, Jose Maria Valderas, PhD, MD^{4,7}, Jordi Alonso, PhD, MD^{4,7}, Antonio Escobar, PhD, MD⁸, Kalliopei Vrotsos, MSc⁹, EBPPO Group

¹HBMH Hospital del Mar Medical Research Institute, Barcelona, Spain
²Universitat Pompeu Fabra, Barcelona, Spain
³CIBER Epidemiología y Salud Pública, Barcelona, Spain
⁴Universitat Autònoma de Barcelona, Barcelona, Spain
⁵Research Unit, University Hospital of Basque, Bilbao, Spain
⁶Health Services Research on Chronic Patients Network (HRESEREN), Barcelona, Spain
⁷Research Unit, Hospital of Guadalupe, Guzmán, Spain
⁸Health Services and Policy Research Group, Department of Primary Care Health Science, University of Oxford, Oxford, UK
⁹Research Unit, Primary Care Organization of Integrated Health Services, Gipuzkoa, Spain

Background: The aim of this study was to perform a methodological and systematic evaluation of the available evidence for valid and reliable shoulder-specific patient-reported outcome measures for use in people with a wide spectrum of shoulder dysfunction.
Methods and results: A systematic review was conducted in PubMed to identify articles with sufficient data regarding the development process, metric properties, and administration issues of shoulder-specific patient-reported outcome measures. These papers independently reviewed all the articles identified for each instrument and applied the validated Consensus-Based Measures of Patient-Reported Outcome Scale, which was designed to assess the quality of articles in a methodical way. An overall EMPRO score and shoulder-specific scores were calculated (range, 0-100) to describe the quality of instrument performance.



Materials for Committee

van Kampen et al. Journal of Orthopaedic Surgery and Research 2015, 9:60
http://www.josr-online.com/content/9/1/60

RESEARCH ARTICLE

Determination and comparison of the smallest detectable change (SDC) and the minimal important change (MIC) of four-shoulder patient-reported outcome measures (PROMs)

Derk A van Kampen^{1*}, W Jaap Mientens², Loei W H van Beek², René M Cabeliers³, Vinessa A B Scholtes⁴ and Caroline B Terwee⁴

Abstract
Background: There is a need for better interpretation of orthopaedic treatment effects. Patient-reported outcome measures (PROMs) are already commonly used for patient evaluation. PROMs can be used to determine treatment effects in research as well as in clinical settings by calculating change scores with pre- and post-treatment evaluation. The smallest detectable change (SDC) and minimal important change (MIC) are two important benchmarks for interpreting these change scores. The purpose was to determine the SDC and the MIC for four PROMs used in orthopaedic PROMs Group (the Simple Shoulder Test (SST), Disabilities of the Arm, Shoulder and Hand (DASH) and QuickDASH), and the Oxford Shoulder Score (OSS).
Methods: A cohort of 146 consecutive patients with shoulder problems (with an orthopaedic, outpatient clinic) completed the SST, DASH, and the OSS at their first visit and 6 months after operative or non-operative treatment. The SDC was calculated with a test-retest procedure (30 weeks). For the MIC, Change scores (0-6 months) of individual visits were calculated in seven subgroups of patients, according to an additional self-administered ranking of change over time (anchor-based measurement technique). The MIC is defined as the average score of the 'slightly improved' group according to the anchor. The QuickDASH was computed from the DASH.
Results: The SDC of the SST was 2.8, DASH 14.3, QuickDASH 13.1, and OSS 6.0. The MIC change score for the SST was 2.5 (range 1.6-3.4), QuickDASH 13.8, and OSS 6.0.
Conclusion: This study shows that on an individual patient based level, when taking into account SDC and MIC the use of four PROMs should increase from a score of SST 50, DASH 50, and OSS 171 to a score of 54, QuickDASH 64, and points for the OSS to have a clinically relevant change on a PROM, which is not due to measurement error.
Keywords: PROMs; PROMs measurement; MIC; SDC; DASH; Simple shoulder test; Oxford shoulder score



Guidelines for Selection

The Committee agreed upon the following:

- Patient reported outcomes
- Good psychometrics
- Validated scores
- Ease of use for patient - brief
- Ease of scoring and understanding for physician
- Standardized use nationally and internationally
- Cost considerations

Ongoing Process

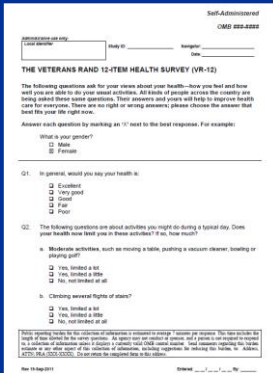
- Many emails, questions, conference calls, and responses to finally determine a strong consensus, if not unanimity of opinion, regarding recommendations

Scores

Minimum Standards , basic package

- Quality of Life – VR12 vs EQ-5D
- Joint Specific – ASES vs Oxford
- SANE Score (Single Alpha Numeric Evaluation)
– “What % of normal is your shoulder?”

Generic Quality of Life - VR-12



14 questions
Likert out of 100

Advantages :

- Same as SF12
- In public domain
- No cost

ASES Shoulder Score

ASES Shoulder Evaluation - Pre-Treatment

Patient Pain & Instability Self-Evaluation Section

1. How bad is your pain today? (0 is no pain, 10 is the most painful) _____

Patient Activity of Daily Living Self-Evaluation Section

	Unable to do	Very difficult to do	Somewhat difficult	Not difficult
1. Put on a coat	Left Shoulder			
	Right Shoulder			
2. Sleep on painful side	Left Shoulder			
	Right Shoulder			
3. Wash back/fore up bra in back	Left Shoulder			
	Right Shoulder			
4. Manage toileting	Left Shoulder			
	Right Shoulder			
5. Comb hair	Left Shoulder			
	Right Shoulder			
6. Reach a high shelf	Left Shoulder			
	Right Shoulder			
7. Lift 10 lbs. above shoulder	Left Shoulder			
	Right Shoulder			
8. Throw a ball overhand	Left Shoulder			
	Right Shoulder			
9. Do usual work	Left Shoulder			
	Right Shoulder			
10. Do usual sport	Left Shoulder			
	Right Shoulder			

10 Questions
50 points for function
50 points for pain
(1 question)
Total 100

- High Score is Best
- Great psychometrics
- Standard in North America

SANE Score
(Single Alpha Numeric Evaluation)

SANE

What percentage of normal is your shoulder?
0% 100%

- Not validated (Being validated at SHCC)
- Strongly associated with ASES and IKDC
(5 publications showing strong association)

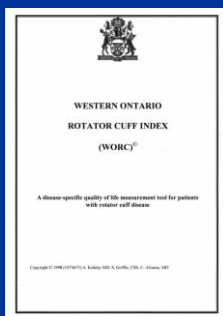
Parallel Track

For more robust scoring eg for research, the committee recommends the membership and others include:

(Disease Specific)

- WORC – Western Ontario Rotator Cuff Index
- WOSI – Western Ontario Stability Index
- WOOS – Western Ontario OA Score
- PENN – Great score but too lengthy to include in the minimum standards.

Western Ontario Rotator Cuff Index (WORC)



21 Questions

- 0 Best
- 100 Worst

Shoulder Score (Final Recommendation – Basic Package)

- Quality of Life – VR-12
- Joint Specific – ASES Committee’s Recommendation (Oxford?)
- SANE

Shoulder Score (Final Recommendation – Research Package)

- Quality of Life – VR-12
- Joint Specific – ASES
- SANE
- Disease Specific (WORC, WOSI, WOOS)
- PENN Score

The Challenge

- Implementation ie., to have processes and pathways and performance measures that can be implemented in not only larger hospitals but in smaller communities and practices.

Implementation

- Paper
- Scanning
- Computer
- Web based
- Software Programs ie. Socrates, Obeard, RedCap, EPIC, SOS (Arthrex)

Implementation

- AANA has partnered with SOS (Arthrex – Private) to provide access as member benefit.

Definition of Performance Measures

- For CMS the definition of Performance Measures is application and validated testing of outcomes scores.

Future

Evolving Process – Prepare to Change

PROMIS (Patient reported outcomes management information system)

- Large NIH funded program
- QOL – Global Health 10
- Orthopaedics – Not yet
- CAT (Computerized Adaptive Testing) (foot and ankle)

Future

Evolving Process – Prepare to Change

CMS currently requires reporting via PQRS
(Physician Quality Reporting System)

- Only few measures related to Orthopaedics
- Inadequate for Orthopaedic Surgeons
- Only 1 from AAOS related to OA/Pain Assessment

Significant financial implications for compliance and non-compliance based on Medicare patients
(2-8% bonus vs deduction)

Future

Evolving Process – Prepare to Change

According to a 2014 survey from Medical Group Management Association

- 83% of respondents indicated that Medicare's quality programs do not enhance patient care.

However

- The US Federal Government and CMS have mandated participation regarding quality of care for all patients.

Sustainable Growth Rate (SGR)

- Repeal Law of April 2015 produced a bill called MACRA (Medicare Access and CHIP Reauthorization Act of 2015)
- How we are paid
- Eliminate the SGR formula

Future

***Evolving Process – Prepare to Change
SGR Repeal 2015***

Merit Based Incentive Payment System (MIPS)

- In place by 2018
- Combines PQRS, VBM and HER
- VBM is value based modifier

Future

***Evolving Process – Prepare to Change
SGR Repeal 2015***

In addition **APM (Alternative Payment Models)**

- ACO
- Bundled payments
- To Include outcomes
- Participate in APM, eliminate need to participate in MIPS
- No need to participate in MIPS

Stakeholder Meeting

- Chicago, Friday, February 20, 2015
- AOSSM, AANA, ASES (Therapy Representation)
- Agreed upon scores for shoulder, elbow, and knee
- Example Knee: VR-12, SANE, IKDC, Marx
- Canvassing other sub-specialties

Moving Forward

- Sub-Specialties need to determine appropriate Outcome Scores (PROS)
- Ask AAOS to work with CMS to include these measures to qualify
- Registries still required for complications, re-admissions, re-operations, etc. due to costs and affect on outcomes
- Establish “risk adjustment”

As of Today (Not Set In Stone)

Encourage all sub-specialties to adopt #1 VR-12 #2 SANE
In addition:

- Shoulder - ASES
- Elbow - Quick Dash
- Hand - Quick Dash
- Total Knee - Short Form KOOS
- Total Hip - Short Form WOOS
- Hip Arthroscopy - IHOT
- Sports Knee? - IKDC and MARX
- Spine ??
- Foot and Ankle - PROMIS

Stackholder Meeting

- Plan is to meet this year in March at AAOS with BOS (Board of Specialties players)

How To Enroll

- Qualified PQRS registry
- Direct EHR
- QCDR – AJRR
 - Force TJR
- “Repository” – SHCC (Storage Retrieval and Analysis of Performance Measures) Implementation Example - Sports Medicine

Thank You