Using Patient Reported Outcomes Measures for Practice Improvement of Orthopaedic Surgeons

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Disclosure

• Funding was received from the American Board of Orthopaedic Surgery (ABOS) through the ABMS Visiting Scholars Program
• This work was conducted in conjunction with the University of Washington and University of Utah.
Agenda

• Background
• Methods
• Results
• Discussion
Background
ABOS Patient Reported Outcome (PRO) Program Goals

- Scores reviewed as part of credentialing process
  1. Case List Selectors
  2. Oral Examiners
  3. Candidate
     - Self-regulated quality improvement
     - Participation in validated assessment
     - Can be expanded

- Evaluate true outcomes
- Continuous Practice Improvement
- Hear the “voice of the patient” in the certification process
- Return PROs to surgeons for valuable feedback/reflection
ABOS Part II Oral Examination

• Final step in ABOS initial Board Certification
• Candidates submit 6 month consecutive Case List from April – September one year prior to examination
• 12 cases chosen for presentation/oral exam
• Entered Online into ABOS Scribe System
  • Hospital/Surgical Center
  • Patient ID/Initials
  • Patient Age/Sex
  • Brief Description of Surgery
  • Surgery Date
  • Complications
  • Patient Email Address for surgical cases entered in May/June
• Patient May Opt Out
Methods
Patient Reported Outcome Measurement Information System (PROMIS®)

- Computer Adaptive Testing (CATs)
  - items are selected for administration from an item bank based upon the respondent’s previous answers
  - 4-12 items with a high level of measurement precision
ABOS PRO Program Implementation

- Patient receives an automated email
- Link to the PROMIS Physical Function (PF) Domains
  - Pre-operatively
  - 6 months post-operatively
  - 12 months post-operatively
- Year 2
  - Spanish
  - Upper Extremity PF domain
  - Pain Interference (PI)
Email Administration

• Initial Contact

Dear Patient:

Your surgeon is assisting The American Board of Orthopaedic Surgery (ABOS) in the collection of patient outcomes of orthopaedic procedures. The ABOS manages the Board Certification and Recertification process for Orthopaedic Surgeons.

Your surgeon and the ABOS would like to obtain information about your condition before and after your surgery. You will receive a link to a brief 1 to 2 minute survey by email. Your participation is voluntary, and you may inform your surgeon that you do not wish to participate. Your responses will be kept confidential and will be used only for ABOS certification and recertification purposes. Personal information will not be shared with any third parties other than your surgeon.

Your feedback will benefit your surgeon and future patients. We thank you for your participation in this important process.

Thank you,
The American Board of Orthopaedic Surgery

• Follow-up

Dear Patient:

On behalf of your orthopaedic surgeon, Dr. xxx, please click the link below to answer a few standard questions about how you are doing.

https://www.abos.org/p/xxxxx

Sincerely,
The American Board of Orthopaedic Surgery
400 Silver Cedar Court
Chapel Hill, North Carolina 27514
(919) 929-7103

https://www.abos.org
patients@abos.org
**Data Collection**

**PROMIS PF Baseline**
- 5/1/2017 - 6/30/2017

**PROMIS PF and PI Baseline**
- 4/1/2018 - 6/30/2018

**PROMIS PF and PI 6 month**
- 10/1/2018 - 12/30/2018

**PROMIS PF 6 months**
- 11/1/2017 - 12/31/2017

**PROMIS PF 1 year**
- 5/1/2018 - 6/30/2018

**PROMIS PF and PI 1 year**
- 4/1/2019 - 6/30/2019

**PF** = Physical Function Domain

**PI** = Pain Interference

**Part II Candidates 2017-2018**

**Part II Candidates 2018-2019**
Results
## Candidates, Cases and Complications

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Candidates</td>
<td>679</td>
<td>722</td>
</tr>
<tr>
<td>Cases</td>
<td>14,861</td>
<td>22,023</td>
</tr>
<tr>
<td><strong>Complications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anesthesia</td>
<td>81</td>
<td>104</td>
</tr>
<tr>
<td>Medical</td>
<td>866</td>
<td>1328</td>
</tr>
<tr>
<td>Surgical</td>
<td>2101</td>
<td>3414</td>
</tr>
<tr>
<td>Reoperation</td>
<td>562</td>
<td>813</td>
</tr>
<tr>
<td>Readmission</td>
<td>569</td>
<td>825</td>
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## Candidate Case PRO Participation

Count of candidates with at least one patient completing each PRO measure (baseline, 6 month and 12 month) and counts with at least one patient with a follow-up PRO measure.

<table>
<thead>
<tr>
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<th>Physical Function (n = 1,401)</th>
<th>Pain Interference* (n = 722)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline</strong></td>
<td>1,377 (98.3%)</td>
<td>711 (98.5%)</td>
</tr>
<tr>
<td><strong>Baseline &amp; 6 month</strong></td>
<td>1,131 (80.7%)</td>
<td>672 (94.5%)</td>
</tr>
<tr>
<td><strong>Baseline &amp; 12 month</strong></td>
<td>1,276 (91.1%)</td>
<td>648 (91.1%)</td>
</tr>
<tr>
<td><strong>Baseline &amp; (6 month OR 12 month)</strong></td>
<td>1,317 (95.6%)</td>
<td>690 (95.6%)</td>
</tr>
<tr>
<td><strong>Baseline &amp; (6 month AND 12 month)</strong></td>
<td>1,090 (77.8%)</td>
<td>630 (73.7%)</td>
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* Exam year 2019 only
PROMIS T-scores for ABOS candidate cases

Overall PROMIS T-scores

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<tr>
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</thead>
<tbody>
<tr>
<td>Physical Function</td>
<td>38</td>
<td>49</td>
<td>61</td>
</tr>
<tr>
<td>6 month</td>
<td>48</td>
<td>49</td>
<td>52</td>
</tr>
<tr>
<td>1 year</td>
<td>49</td>
<td>49</td>
<td>52</td>
</tr>
</tbody>
</table>

Baseline 6 month 1 year
PROMIS Physical Function T-scores by Orthopaedic Subspecialty

PROMIS Physical Function

Orthopaedic Subspecialty

- Trauma
- Spine
- Joints
- Foot & Ankle
- Tumors
- General Ortho
- Sports Medicine
- Pediatrics
- Hand & UE

Baseline, 6 month, 1 year
ABOS PRO Benchmarking Example

Total Hip Arthroplasty

Baseline to 6-Month Change in PROMIS Physical Function

ABOS National Distribution
My Patients
Discussion
ABOS MOC requirements

• **Part I: Evidence of Professional Standing**
  • assessed with peer review
  • confirmation of full and unrestricted licensure in all jurisdictions where a license is held, and hospital credentials

• **Part II: Evidence of Life-Long Learning and Self-Assessment**
  • 240 credits of Category 1 Continuing Medical Education (CME) that include a minimum of 40 CME credits of Self-Assessment Examinations (SAE).

• **Part III: Evidence of Cognitive Expertise**
  • secure recertification examination pathway and required at 10 year intervals.

• **Part IV: Evidence of Performance in Practice**
  • focuses on quality improvement model that includes a stringent peer review process and submission of case lists
  • peer review of the candidate from certified orthopaedic surgeons who are familiar with their work, and get evaluations from the hospital chief of staff, chief of orthopaedics, surgery, anesthesia, and nursing staff in the operating room and orthopaedic wards.
  • information is reviewed by the credentials committee of the ABOS, who will decide which applicants are admitted to sit for the recertification examination.
ABOS PRO Program Summary

• Initial mechanics successful
• Patient Centric, minimal burden
• Issues:
  • Pediatric patients
  • HIPAA concerns
  • Reporting information/timing
• Further incorporation of PROMIS data into Certification and Recertification for meeting MOC Part IV for Orthopaedics
• 5 year plan to develop thresholds for specific procedures to compare high/low performers