I (and/or my co-authors) have nothing relevant to disclose.

Detailed disclosure information is available via:

AAOS Disclosure Program on the AAOS website at http://www.aaos.org/disclosure
SPEAKERS

Michael J. Gardner, MD, FAAOS
Stanford Medical
FTR Steering Committee Chair

Matthew Gitelis
Founder, CEO
PatientIQ
AGENDA

1. Introduction
   • FTR Overview
   • Stanford FTR Participation Goals & Challenges
   • FTR powered by PatientIQ Solution

2. Stanford FTR Implementation
   • Automated Data Collection
   • Implementation Success

3. How to Get Started

4. Q&A
FRACTURE & ORTHOPAEDIC TRAUMA REGISTRY

• **Mission**: To improve orthopaedic fracture care through the collection, analysis, reporting, and research of traumatic fractures of the extremities and pelvis

• **Vision**: To be a National Registry that empowers quality improvement and research for orthopaedic trauma of the extremities and pelvis in order to optimize patient care
FRACTURE & ORTHOPAEDIC TRAUMA REGISTRY

ESTABLISHED IN 2021, PUBLIC LAUNCH IN 2022
- 35+ sites actively contracted
- 17,000+ procedures

5 MODULES
- Ankle Fracture
- Distal Femur Fracture
- Distal Radius Fracture
- Hip Fracture
- Proximal Humerus Fracture
FTR STEERING COMMITTEE

Michael J. Gardner, MD, FAAOS – Chair
  • Stanford University

Jaimo Ahn, MD, PhD, FAAOS
  • University of Michigan

Kyle J. Jeray, MD, FAAOS
  • Prisma Health

Douglas W. Lundy, MD, MBA, FAAOS
  • St. Luke’s University Health Network

Saam Morshed, MD, PhD, MPH, FAAOS
  • University of California, San Francisco

William T. Obremskey, MD, MPH, FAAOS
  • Vanderbilt Ortho Institute

Steven A. Olson, MD, FAAOS
  • Duke Hospital

Heather A. Vallier, MD, FAAOS
  • Case Western Reserve University
### DATA COLLECTED BY THE FTR

<table>
<thead>
<tr>
<th>Patient</th>
<th>Fracture Classification</th>
<th>Procedure</th>
<th>Comorbidities and Complications</th>
<th>Patient-Reported Outcomes</th>
</tr>
</thead>
</table>
| • Name (Last, First)  
• Date of Birth  
• Social Security Number  
• Diagnosis (ICD-10)  
• Gender  
• Race/Ethnicity  
• Residential Setting  
• Ambulatory Status  
• Pre-operative Modified Frailty Index (MFI-5)  
• Delirium Score | • AO/OTA Classification  
• Fracture Type  
• Fracture Group | • Type (ICD-10, CPT)  
• Date of Surgery  
• Injury Data  
• Regional Block  
• Osteoporosis Screening  
• Calcium/Vitamin D Supplementation  
• Implants and Grafts | • Comorbidities (ICD-10)  
• Height + Weight/Body Mass Index  
• Length of Stay  
• American Society of Anesthesiologists Score  
• Charlson Comorbidity Index (CCI)  
• Operative and Post-operative Complications  
• COVID-19 as a prior diagnosis | • PROMIS-10 Global or VR-12  
• PROMIS Physical Function  
• Anatomic-specific PROMs for each module  
**Also Accepted:**  
• PROMIS-29  
• PROMIS Anxiety  
• PROMIS Depression  
• PROMIS Pain Interference  
• PROMIS-CAT (only accepting summary scores) |
### ADVANCED DATA ELEMENTS

#### Ankle
<table>
<thead>
<tr>
<th>Ankle</th>
<th>Anesthesia Type</th>
<th>Ankle</th>
<th>Associated Articular Impaction</th>
<th>Ankle</th>
<th>Injury Type</th>
<th>Ankle</th>
<th>Fracture Type</th>
<th>Ankle</th>
<th>Fracture Length</th>
<th>Ankle</th>
<th>Fracture Salve Length</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1-7 (General)</td>
<td></td>
<td>1 (Open; 2; Closed)</td>
<td></td>
<td>1-6 (General; 2; Spinal; 3; Epidural; 4; Nerve block; Femoral/Sacral/Adductor/etc)</td>
<td></td>
<td>1-4 (Open; 2; Closed; 3; Not reported or NR)</td>
<td></td>
<td>1-4 (Open; 2; Closed; 3; Not reported or NR)</td>
<td></td>
<td>1-4 (Open; 2; Closed; 3; Not reported or NR)</td>
</tr>
</tbody>
</table>

#### Distal Femur
<table>
<thead>
<tr>
<th>Distal Femur</th>
<th>Anesthesia Type</th>
<th>Distal Femur</th>
<th>Fracture Type</th>
<th>Distal Femur</th>
<th>Fixation Type</th>
<th>Distal Femur</th>
<th>Bone Defect</th>
<th>Distal Femur</th>
<th>Bone Cement</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1-6 (General; 2; Spinal; 3; Epidural; 4; Nerve block; Femoral/Sacral/Adductor/etc)</td>
<td></td>
<td>1-5 (Extraarticular Fracture [ExA], 2-Part Articular Fracture [2A], 3-Part Articular Fracture [3A])</td>
<td></td>
<td>1-5 (Extraarticular Fracture [ExA], 2-Part Articular Fracture [2A], 3-Part Articular Fracture [3A])</td>
<td></td>
<td>1-3 (Yes; 2; No)</td>
<td></td>
<td>1-3 (Yes; 2; No)</td>
</tr>
</tbody>
</table>

#### Hip
<table>
<thead>
<tr>
<th>Hip</th>
<th>Anesthesia Type</th>
<th>Hip</th>
<th>Surgical Approach</th>
<th>Hip</th>
<th>Surgical Technique</th>
<th>Hip</th>
<th>Fracture Type</th>
<th>Hip</th>
<th>Fracture Stability</th>
<th>Hip</th>
<th>Modified 5-Item Frailty Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-7 (General; Plexus/Psas)</td>
<td></td>
<td>1-5 (1-Anterior [any type]; 2-Lateral [any type]; 3-Posterior [any type]; 4-Other; 5-Not reported or NR)</td>
<td></td>
<td>1-4 (1-Hemiarthroplasty; 2-Total Joint Arthroplasty; 3-Fixation; 4-Not reported or NR)</td>
<td></td>
<td>1-4 (1-Deltopectoral; 2-Subpectoral; 3-Lateral; 4-Not reported or NR)</td>
<td></td>
<td>1-3 (1-Stable; 2-Unstable; 3-Not reported or NR)</td>
<td></td>
<td>0-5, Not reported or NR</td>
</tr>
</tbody>
</table>

#### Proximal Humerus
<table>
<thead>
<tr>
<th>Proximal Humerus</th>
<th>Anesthesia Type</th>
<th>Proximal Humerus</th>
<th>Fracture Type</th>
<th>Proximal Humerus</th>
<th>GIH Dislocation</th>
<th>Proximal Humerus</th>
<th>Full RCT</th>
<th>Proximal Humerus</th>
<th>Shoulder Osteoarthritis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-6 (General; 2; Spinal; 3; Epidural; 4; Nerve block; Femoral/Sacral/Adductor/etc)</td>
<td></td>
<td>1-4 (1-Extraarticular, unifocal, 2-part fracture [1A], 2-Extraarticular, bifocal, 3-part fracture [1B], 3-Articular or 4-part fracture [1C], 4-Not reported or NR)</td>
<td></td>
<td>1-3 (1-Yes; 2; No)</td>
<td></td>
<td>1-3 (Yes; 2; No)</td>
<td></td>
<td>1-3 (Yes; 2; No)</td>
</tr>
</tbody>
</table>

#### AAOS

**Americaly Academy of Orthopaedic Surgeons**

**FTR & TRAUMA REGISTRY**
BENEFITS OF ADVANCED DATA

The overall quality, accuracy, and completeness of Registry data will be enhanced by capturing a broader array of advanced clinical information through clinician-entered elements.

**Enriched Data Set**
Comprehensive and detailed datasets support more robust analyses, leading to better-informed decision-making, research outcomes, and quality improvement initiatives.

**Accuracy**
Clinician-entered data is often more accurate and reflective of the actual patient encounter. Clinicians can verify and validate the information they input, ensuring data accuracy and integrity.

**Completeness**
Help fill gaps and ensure that all pertinent clinical details are documented in real-time, minimizing the risk of data gaps or omissions that could compromise the completeness of the dataset.
STANFORD GOALS

Stanford was motivated to participate in the AAOS Fracture & Trauma Registry

**Improved Patient Outcomes**
- Benchmark against national data
- Implement evidence-based practices

**Quality Improvement**
- Track performance metrics
- Identify and close care gaps

**Clinical Research**
- Access comprehensive data for research
- Develop and test new surgical protocols

**Personalized Patient Care**
- Utilize patient-reported outcomes
- Enhance patient engagement
STANFORD CHALLENGES

Stanford faced challenges collecting patient and surgical data

- Clinical burden to collect surgical and patient-reported outcomes data
- IT burden to extract, aggregate, format and submit data each month
- Lack of advanced data available in the EHR for registry-specific use cases
To reduce the burden on Stanford’s clinical and IT teams, PatientIQ:

1. Automates collection of all procedure and patient-reported outcomes data
2. Embeds forms in Epic to collect clinician-entered, advanced data
3. Aggregates and translates data to meet registry specifications
4. Submits data to FTR monthly
STANFORD FTR IMPLEMENTATION
AUTOMATED PATIENT ENROLLMENT

Patients are automatically enrolled into the appropriate FTR project when a visit is scheduled.
Dear John,

Prior to your upcoming procedure at Demo Hospital, your surgical team has assigned you helpful information to get you ready for your surgery. Our team will be regularly checking in on you to monitor your progress and healing. Please make sure you complete your tasks when they are assigned. We will be with you every step of the road to recovery.

Dr. Smith
Orthopedic Surgeon
Demo Hospital

PROMIS Pain Interference

In the past 7 days
How much did pain interfere with your day-to-day activities?

- Not at all
- A little bit
- Somewhat
- Quite a bit
- Very much

Skip

HOOS, JR

In the past 7 days
How much pain do you have while sitting?

- None
- Mild
- Moderate
- Severe
- Extreme

Skip
AUTOMATED PROCEDURE DATA COLLECTION

FTR forms are embedded directly in Epic and auto-populated with all data required for submission.
CLINICIAN-ENTERED ADVANCED DATA

Stanford can easily populate advanced surgical information at the point of care

Forms Populated Directly in Epic
- Stanford collects advanced data that is not available as structured fields in the EHR or accessible for extraction
AUTOMATED SUBMISSION TO FTR

PatientIQ aggregates, validates, formats and submits all data to FTR monthly

- Ankle Fracture
- Distal Radius Fracture
- Distal Femur Fracture
- Hip Fracture
- Proximal Humerus Fracture
IMPLEMENTATION SUCCESS

Phase One - 3 Weeks
Project Kickoff, Requirements & Platform Setup

Phase Two - 1 Week
Surgeon Training & Advanced Data Collection Go-Live

Phase Three - Ongoing
Automated Data Submission to AAOS
VALUE DELIVERED

Stanford now has access to rich benchmarking and reporting via the AAOS Registry Insights portal.
GETTING STARTED WITH FTR
**PARTICIPATION OPTIONS**

AAOS and PatientIQ offer the most effortless way to practice evidence-based medicine

<table>
<thead>
<tr>
<th>FTR Participation Options</th>
<th>Standard FTR Participation</th>
<th>AAOS FTR powered by PatientIQ*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Automated collection of procedure data</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>2. Automated collection of patient-reported outcomes data</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>3. EHR-embedded forms to collect clinician-entered, advanced data</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>4. Data aggregation and translation to meet registry specifications</td>
<td></td>
<td>✅</td>
</tr>
<tr>
<td>5. Automated monthly submission to AAOS</td>
<td></td>
<td>✅</td>
</tr>
</tbody>
</table>

*Pricing available upon request, option to leverage PatientIQ for larger patient-reported outcomes solution or for registry participation only
GETTING STARTED

1. Contact the AAOS Registry Engagement team (registryengagement@aaos.org)
2. Schedule an introductory meeting with AAOS & PatientIQ
3. Kick off implementation & EHR integration
4. PatientIQ sets up platform and begins submitting data to FTR
QUESTIONS?