

**Session: U**

**Session Title:** The Future of the AAOS Registry Portfolio - A Multi-Stakeholder Perspective

**Session Type:** Symposium

**Location:** West, Room 2020

**Date & Time:** 02-14-2024, 11:00 am - 12:30 pm

**INSTRUCTORS WHO CONTRIBUTED TO THIS HANDOUT: as of 1/9/2024**

**Faculty:**

Kevin J. Bozic, MD,MBA,FAAOS

Paul J. Duwelius, MD,FAAOS

Michael J. Gardner, MD,FAAOS

Steven D. Glassman, MD, FAAOS

James I. Huddleston, MD,FAAOS

James I. Huddleston, MD,FAAOS

Leslie Klemp

William J. Maloney, MD,FAAOS

Howard J. Marans, MD, FAAOS

Benjamin J. Miller, MD,MS,FAAOS

Bryan D. Springer, MD,FAAOS

Steve Vankoski

Gerald R. Williams, MD, FAAOS

Colleen Wixted

The Academy reserves any and all of its rights to materials presented at the Annual Meeting. Reproductions of any kind, by any person or entity, without prior written permission from the Academy are strictly prohibited.

the power of

# DATA

## The American Spine Registry

The American Spine Registry (ASR), a partnership between the American Association of Neurological Surgeons (AANS) and the Academy, represents a collaboration to enhance and improve the quality of spine care by providing all US-based spine surgeons with access to a shared data-collection program. The partnership incorporates the resources and experience of both organizations.

The shared vision for the ASR is to:

- Utilize data to inform the AANS and the AAOS care guidelines and to establish benchmarks to test clinical performance and the validity of various quality measures, which are efforts critical to a value-based health care system
- Provide feedback to providers that allows them to continuously improve their practice and health care outcomes using methods applicable to all practice settings
- Reduce data reporting burdens on physicians and allow reuse of data for regulatory requirements and continuous quality improvement programs
- Inform gaps in knowledge and define areas for further education and research

### Key Contributors: ASR Executive Committee

- **Anthony Asher, MD, FACS, Co-chair**  
Carolina NeuroSurgery & Spine Associates
- **Steven D. Glassman, MD, FAAOS, Co-chair**  
Norton Leatherman Spine Center
- **Todd Albert, MD, FAAOS**  
Hospital for Special Surgery
- **Darrel Brodke, MD, FAAOS**  
University of Utah Health
- **Kevin T. Foley, MD, FAANS**  
Semmes-Murphey Brain and Spine Care
- **Jack Knightly, MD, FACS**  
Atlantic Neurosurgical Specialists
- **David W. Polly, Jr., MD, FAAOS**  
University of Minnesota
- **Chris Shaffrey, MD, FAAOS, FACS**  
Duke University Health System



For more information and to stay up to date on new features and enhancements for ASR, scan this QR code.

**American Spine Registry** 

*A partnership between  
American Association of Neurological Surgeons  
American Academy of Orthopaedic Surgeons*

# Data Element Overview

## PROCEDURAL

### Patient

- Name (Last, First)
- Date of Birth
- Social Security Number
- Diagnosis (ICD-10)\*
- Gender
- Race/Ethnicity

### Site of Service

- Name and Address (TIN/NPI)

### Surgeon

- Name (NPI)

### Procedure

- Type (ICD-10)\*
- Date of Surgery
- Spinal Approach
- Implants and Grafts
- Comorbidities (ICD-10)
- Height + Weight/Body Mass Index
- Length of Stay
- American Society of Anesthesiologists Score

### Modules Available

- Cervical
- Lumbar

## POST-OPERATIVE

- Operative and Post-operative Complications
- Secondary Surgical Procedures
- Anticoagulation

## PATIENT-REPORTED OUTCOME MEASURES\*\*

### Recommended

- PROMIS-10 or VR-12
- Oswestry Disability Index (ODI)/ Neck Disability Index (NDI)
- Numeric Rating Scale (NRS)
- PROMIS Physical Function

### Also Accepted

- PROMIS-29
- PROMIS Anxiety
- PROMIS Depression
- PROMIS Pain Interference
- PROMIS-CAT\*\*\*
- EQ-5D

*\*Vanguard sites utilize an operative form for additional procedural & diagnosis detail*

*\*\*Vanguard sites pursue longer PROMs post-operative follow-up (min 1 year) compared to standard sites (min 90 days)*

*\*\*\*Accepting summary scores only*

***This page is a summary of the ASR data elements and is not all inclusive.***

Get Started Today by Enrolling Here

the power of  
**DATA**

# The AAOS Fracture & Trauma Registry

In March 2022, the American Academy of Orthopaedic Surgeons (AAOS), with support from the Orthopaedic Trauma Association (OTA), launched the Fracture & Trauma Registry (FTR). FTR is the fifth and newest addition to a series of anatomical, quality improvement registries, capturing national data on five of the more common fractures: Ankle, Hip, Distal Femur, Distal Radius, and Proximal Humerus.

## Mission

To improve orthopaedic fracture care through the collection, analysis, reporting, and research on 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.

## On the Horizon

As FTR grows, there will be benchmarking capabilities available for surgeons to compare their data against national aggregate data on procedural trends and outcomes. The AAOS is consulting with our participants to optimize the collection of clinical and operative data through tools and resources that will be made available at the point of care.

## Key Contributors:

### The 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. Obrebsky, MD, MPH, FAAOS**  
Vanderbilt Ortho Institute
- **Steven A. Olson, MD, FAAOS**  
Duke Hospital
- **Heather A. Vallier, MD, FAAOS**  
Case Western Reserve University
- **Philip R. Wolinsky, MD, FAAOS**  
Dartmouth Medical Center



*"By aggregating data from sites across the country, we can really start to distinguish patterns in the data that otherwise would have gone unnoticed. We also can provide surgeons with internal and external benchmarks for continuous quality improvement. We believe this is a unique opportunity to drive meaningful performance improvement."*

- **Michael J. Gardner, MD, FAAOS, FTR Steering Committee Chair**



For more information and to stay up to date on new features and enhancements for FTR, scan this QR code.

**AAOS**  
AMERICAN ACADEMY OF  
ORTHOPAEDIC SURGEONS

**Fracture & Trauma Registry**  
Improving Orthopaedic Care Through Data

# FTR Common Data Elements

## PROCEDURAL

### Patient

- 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

### Site of Service

- Name and Address (TIN/NPI)

### Surgeon

- Name (NPI)

### Fracture

- Fracture Type
- Fracture Classification

### Procedure

- Type (ICD-10, CPT)
- Date of Surgery
- Injury Date
- Regional Block
- Osteoporosis Screening
- Calcium/Vitamin D Supplementation
- Implants and Grafts

### Comorbidities and Complications

- 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

### Patient-Reported Outcomes

- 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)

### Modules Available

- Ankle fracture
- Distal femur fracture
- Distal radius fracture
- Hip fracture
- Proximal humerus fracture

# Procedure-Specific Data Elements

## ANKLE FRACTURE

### Fracture

- Dislocation Type
- Open/Closed
- Injury Mechanism
- Pre-operative Closed Reduction

### Procedure

- External Fixation
- Syndesmotic Fixation
- Lateral, Posterior Malleolus, Medial Treatment
- Adjunct Treatments
- Associate Articular Impaction Details
- Stress Evaluation Method and Findings

### Anatomic-Specific PROMs

- PROMIS Pain Interference

### Additionally Accepted:

- FAAM
- FAOS

## HIP FRACTURE

### Fracture

- Fracture Stability

### Procedure

- Surgical Approach \*arthroplasty only
- Surgical Technique
- Fixation Type

### Anatomic-Specific PROMs

- HOOS, Jr.

### Additionally Accepted:

- HOOS

## DISTAL FEMUR FRACTURE

### Fracture

- Presence of Bone Defect

### Procedure

- Use of Bone Cement
- Planned Return to OR

### Anatomic-Specific PROMs

- KOOS, Jr.

### Additionally Accepted:

- KOOS

## DISTAL RADIUS FRACTURE

### Fracture

- Fracture Status
- Pre-operative Closed Reduction
- Angulation Type
- Shear Type
- Presence of Scaphoid Fracture
- Presence of Ipsilateral Ulnar Fracture

### Procedure

- Fixation Type
- ORIF Fixation
- Pre-ORIF with Staged External Fixation
- TFCC Repair
- Distal Radioulnar Joint Stabilization

### Post-Operative

- Range of Motion
- Grip Strength

### Anatomic-Specific PROMs

- DASH or QuickDash

## PROXIMAL HUMERUS FRACTURE

### Patient

- Pre-operative Advanced Imaging

### Fracture

- Presence of Full-Thickness Rotator Cuff Tear
- Presence of Glenohumeral Dislocation
- Presence of Osteoarthritis or Inflammatory Arthritis

### Procedure

- Surgical Approach
- Surgical Technique

### Anatomic-Specific PROMs

- ASES
- SANE

### Additionally Accepted:

- PROMIS Upper Extremity

Get Started Today by Enrolling Here

# the power of **DATA**

## The AAOS Musculoskeletal Tumor Registry

The Musculoskeletal Tumor Registry (MsTR) is the third subspecialty registry to be incorporated into the AAOS family of registries. The wide-spread rollout of the MsTR Registry allows surgeons to combine data about rare bone and soft tissue tumors from sites around the country, thereby potentially answering treatment and outcome questions that are otherwise unable to be answered due to the rarity of the disease. The MsTR feedback and dashboards will help clinicians and health systems track function, complications, and outcomes in patients treated for these sarcomas with the potential to expand to metastatic bone disease and other musculoskeletal tumors in the future.

### Mission

The purpose of the MsTR is to provide a centralized record of patient, tumor, treatment, and outcomes data on musculoskeletal neoplasia in the pelvis, spine, and extremities. The data will be of research quality and allow for investigation into the natural history of disease, risk factors, quality and delivery of care, oncologic and reconstructive outcomes, prognosis, function, and patient quality-of-life. Database design is being curated to facilitate maximum participation by AAOS and Musculoskeletal Tumor Society (MSTS) members with clear goals to minimize the burden of data entry, capture a comprehensive set of relevant information, and to maintain flexibility for future modification as needed.

### Key Contributors: MsTR Steering Committee

- **Benjamin Miller, MD, FAAOS, MS, Chair**  
University of Iowa Hospital and Clinics
- **Megan E. Anderson, MD, FAAOS**  
Beth Israel Deaconess Medical Center  
Boston Children's Hospital
- **Meredith Bartelstein**  
Memorial Sloan Kettering Cancer Center
- **George T. Calvert, MD, FAAOS**  
Norton Healthcare
- **Eric Henderson, MD, FAAOS**  
Dartmouth-Hitchcock Medical Center
- **Adam Levin, MD, FAAOS**  
Johns Hopkins Medicine
- **Nathan Mesko, MD, FAAOS**  
Cleveland Clinic Foundation
- **Shalin Patel, MD**  
The University of Texas  
MD Anderson Cancer Center
- **Joseph Schwab, MD, MS, FAAOS**  
Massachusetts General Hospital
- **Kristy L. Weber, MD, FAAOS**  
University of Pennsylvania



For more information and to stay up to date on new features and enhancements for MsTR, scan this QR code.



*Clinical research and advancements in orthopaedic oncology have historically been hindered by limited numbers, heterogeneous disease presentations, and varied treatments. The MsTR has potential to provide insight into oncologic and functional outcomes for many sarcoma subtypes and surgical procedures on a scale not previously possible. Through the sarcoma and upcoming metastatic disease of bone modules, the MsTR offers an unparalleled opportunity to improve the quality of care for patients afflicted with musculoskeletal tumors.*

– Dr. Benjamin Miller, MD, FAAOS, MS, Chair





# Data Element Overview

Data elements will include but are not limited to patient demographics, patient baseline and examination, tumor baseline, treatment and post-treatment, and surgery detail along with postoperative data (oncologic failure, surgery complication, vital status), and patient-reported outcomes as conveyed in applicable instruments. This page is a summary of the MsTR data elements and is not all inclusive.

## BASELINE

### Patient:

- Name (Last, First)
- Date of Birth
- Social Security Number
- Diagnosis (ICD-10, CPT)
- Gender
- Race/Ethnicity
- Height + Weight/Body Mass Index
- Payer Status

### Site of Service:

- Name and Address (TIN, NPI)

### Surgeon:

- Name (NPI)

### Surgical Intervention:

- Procedure Type (ICD-10, CPT)
- Date of Surgery
- Implants
- Details Surrounding Surgery Type
- Comorbidities (ICD-10, CPT)

### Non-Surgical Intervention:

- Chemotherapy
- Radiation
- Clinical Trial

### Tumor Baseline:

- Size
- Metastasis at Diagnosis
- Margins
- Tissue Type
- Biopsy Type

## ENCOUNTERS AND PATIENT-REPORTED OUTCOMES

### Encounters

- Hospital Admission
- Procedure (ICD-10, CPT)
- Diagnosis (ICD-10)
- Recurrence

### Patient-reported Outcomes

- PROMIS-10 Global or VR-12
- MSTS
- TESS



**Get Started Today by Enrolling Here**



the power of  
**DATA**

## The AAOS Shoulder & Elbow Registry

The Shoulder & Elbow Registry (SER) is part of the American Academy of Orthopaedic Surgeons (AAOS) Registry Program. Launched in 2018, its goal is to collect data on shoulder arthroplasty, elbow arthroplasty, and rotator cuff repair procedures performed across the U.S. This data will help improve patient care by providing actionable insights to participating sites and surgeons, informing the development of performance metrics and standards of care, and supporting quality improvement initiatives and advocacy across orthopaedics.

By collecting and reporting data, the SER provides actionable information to guide physicians and patient decision making to improve care. Participation in the SER offers a variety of data reuse opportunities including requirements for quality initiatives, state collaboratives, maintaining accreditations, payment incentive and center of excellence programs. Please see the Registry Data Reuse Opportunities for the comprehensive list.

### Key Contributors: SER Steering Committee

- **Grant E. Garrigues, MD, FAAOS, Chair**  
Midwest Orthopaedics at Rush
- **Carolyn M. Hettrich, MD, MPH, FAAOS, Vice Chair**  
North County Orthopaedics
- **Oke A. Anakwenze, MD, MBA, FAAOS**  
Duke University Hospital
- **Stephen F. Brockmeier, MD, FAAOS**  
University of Virginia
- **Claude Jarrett, MD, FAAOS**  
Wilmington Health Orthopaedics and Sports Medicine
- **John E. Kuhn, MD, FAAOS**  
Vanderbilt University Medical Center
- **Mariano Menendez, MD**  
Oregon Shoulder Institute at Southern Oregon Orthopedics
- **Ronald A. Navarro, MD, FAAOS**  
Kaiser Permanente South Bay
- **Joaquin Sanchez-Sotelo, MD, FAAOS**  
Mayo Clinic
- **Samuel A. Taylor, MD, FAAOS**  
Hospital for Special Surgery
- **Stephen C. Weber, MD, FAAOS**  
The Johns Hopkins School of Medicine



For more information and to stay up to date on new features and enhancements for SER, scan this QR code.

# Data Element Overview

## PROCEDURAL

### Patient

- Name (Last, First)
- Date of Birth
- Social Security Number
- Diagnosis (ICD-10)
- Gender
- Race/Ethnicity
- Height + Weight/Body Mass Index
- Payer Status

### Site of Service

- Name and Address (TIN, NPI)

### Surgeon

- Name (NPI)

### Procedure

- Type (ICD-10, CPT)
- Date of Surgery
- Length of Stay
- Surgical Approach
- Surgical Technique
- Laterality
- Implants (Manufacturer, Lot #)
- Anesthesia

## MODULE-SPECIFIC PROCEDURAL ELEMENTS

- Shoulder Arthroplasty Module: Includes codes for replacements, revisions, and fractures
- Elbow Arthroplasty Module: Ulnar Nerve Management
- Rotator Cuff Repair Module: Expanded ICD-10 and CPT options for shoulder, including muscle, tendon, and arthroscopy codes

## COMORBIDITIES & COMPLICATIONS

- Comorbidities (ICD-10)
- Height + Weight/Body Mass Index
- Length of Stay
- American Society of Anesthesiologists Score
- Charlson Index
- Operative and Post-operative Complications

## PATIENT-REPORTED OUTCOME

- PROMIS-10 Global or VR-12
- ASES
- SANE

### Also Accepted:

- PROMIS Upper Extremity
- PROMIS Physical Function
- PROMIS-29
- PROMIS Anxiety
- PROMIS Depression
- PROMIS Pain Interference
- PROMIS-CAT\*

*\*Accepting summary scores only*

***This page is a summary of the SER data elements and is not all inclusive.***

### Modules Available

- Shoulder Arthroplasty
- Elbow Arthroplasty
- Rotator Cuff Repair

**Get Started Today by Enrolling Here**