Introduction to the American Spine Registry

A collaboration between AANS and AAOS to improve quality and outcomes in spine care
Our Speakers Today

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  ASR Executive Committee Co-Chair

• Erica F. Bisson, MD, MPH, FAANS
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Disclosures:
Steven D. Glassman, MD, FAAOS

- American Spine Registry: Board or committee member
- Cerapedics: Research support
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- Intellirod: Research support
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Erica F. Bisson, MD, MPH, FAANS

- AANS Ethics, AANS/CNS Spine SPC: Board or committee member
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- MiRus: Paid consultant
- nView: Stock or stock Options
- Stryker: Paid consultant; Stock or stock Options
- No financial conflicts of interest relevant to this presentation
The American Association of Neurological Surgeons and the American Academy of Orthopaedic Surgeons Join Forces to Create the American Spine Registry

Partnership unites practitioners with commitment to improving quality and delivery of patient care

MONT, ILL. (September 9, 2019)—The American Association of Neurological Surgeons and the American Academy of Orthopaedic Surgeons (AAOS) today announced a new joint venture, the American Spine Registry (ASR), which will be jointly owned and developed by both organizations. The ASR will transform the Quality Outcomes Database (QOD) Spine registry, currently the nation’s largest spine registry, into a more far-reaching program that captures the participation of all North American spine surgeons in a shared, quality data platform.

The ASR leverages the unique data science capabilities of the AANS with the operational expertise of the AAOS Registry Program. The ASR allows both organizations to enhance the quality, ease-of-use and relevance of national spine data collection efforts and provides a platform for multiple healthcare stakeholders in this joint effort to improve patient care. The participating organizations expect this collaboration will lead to an enhanced, more granular view of patient care and contribute to the scientific literature on the best practices and outcomes of spine surgery.

"This is a timely and potentially paradigm-shifting partnership," said Anthony C. Clark, MD, neurosurgeon at Carolina Neurosurgery & Spine Associates and co-chair of the AANS/AAOS collaboration. "By combining our respective data sets, we can provide a more comprehensive and accurate view of spine care and patient outcomes. This new registry represents an enhanced opportunity to understand the challenges of an evolving, value-based care delivery system."

The ASR platform fuels the creation of a consistent, reliable quality platform across the entire spine care continuum, ensuring that patients have access to the best care possible. The collaboration between neurosurgeons and orthopedic surgeons, by both neurosurgeons and orthopedic surgeons, the platform fuels the creation of a consistent, reliable quality platform for all stakeholders, including physicians, patients, payors, regulatory agencies, and the spine surgery community. The ASR is committed to advancing patient care and improving outcomes through data-driven insights and collaborative efforts.
American Spine Registry

AANS/AAOS Shared Quality Vision

• component of a larger quality vision for spine care
• provide data to inform AANS & AAOS guidelines and test performance measures
• provide feedback to providers to continuously improve their practice and healthcare outcomes
• allow AANS & AAOS to define what quality means in a value-based system
• reduce the reporting burdens on physicians
• help inform gaps in knowledge or areas for further research and education

“If you can’t measure it, you can’t improve it” ~ Drucker
ASR Governance & Development

AANS Board of Directors

AAOS Board of Directors

American Spine Registry (ASR)
Executive Committee

ASR Data Operations Committee

ASR Data Use Committee

Spine Tumor Module
(in development)

Cervical Degenerative Spine Module
Launched January 2020
Accepts data from ICD10 implementation - present

Lumbar Degenerative Spine Module
Launched January 2020
Accepts data from ICD10 implementation - present

Future ASR Module

*Over 200 sites already participating since Jan 2020 launch*
**ASR Surgeon Leadership**

**Data Operations Committee (DOC)**
*DOC Oversees the development of the data specification and data dictionary, monitors data quality and provides strategic oversight on data element updates*

**Neuro**
- Mo Bydon, MD, AANS Co-Chair
  Mayo Clinic
- Erica Bisson, MD, MPH
  University of Utah
- Paul Park, MD
  University of Michigan
- John Ratliff, MD
  Stanford University
- Michael Steinmetz, MD
  Cleveland Clinic
- Luis Tumialan, MD
  Barrow Brain & Spine

**Ortho**
- Clint Devin, MD, AAOS Co-Chair
  UCHHealth – Yampa Valley Medical Center
- Leah Carreon, MD
  Norton Leatherman Spine Center
- Elizabeth Norheim, MD
  Kaiser Permanente
- Zeeshan Sardar, MD
  Columbia University
- Wellington Hsu, MD
  Northwestern University
- Andrew Pugely, MD
  University of Iowa

**Data Use Committee (DUC)**
*DUC oversees the data access policies, reviews submitted hypotheses, informs the platform dashboards and reports, and provides strategic oversight on data dissemination*

**Neuro**
- Praveen Mummaneni, MD, AANS Co-Chair
  University of California San Francisco
- Dom Coric, MD
  Carolina Neurosurgery & Spine Associates
- Eric Potts, MD
  Goodman Campbell Brain and Spine
- Mike Wang, MD
  University of Miami, TJC Expert Panel
- Kai-Ming Fu, MD
  Weill Cornell Medicine

**Ortho**
- Doug Burton, MD, AAOS Co-Chair
  University of Kansas Medical Center
- Sheeraz Qureshi, MD
  Hospital for Special Surgery
- Raj Sethi, MD
  Virginia Mason Medical Center
- Alpesh Patel, MD
  Northwestern Medicine
- S. Tim Yoon, MD
  Emory University
ASR Surgeon Leadership

Key Opinion Leader Taskforce* & ASR Surgeon Champion(s)

Neuro
- John Wilson, MD
  Wake Forest, TJC Expert Panel
- Adam Kanter, MD
  University of Pittsburgh
- Michael Groff, MD
  Brigham & Women’s Hospital
- Joseph Cheng, MD
  University of Cincinnati
- Justin Smith, MD
  University of Virginia
- Oren Gottfried, MD
  Duke University

Ortho
- Jacob Buchowski, MD
  Wash U in St. Louis, TJC Expert Panel
- Rick Sasso, MD
  University of Indiana, TJC Expert Panel
- Paul Rubery, MD
  University of Rochester
- Scott Boden, MD
  Emory University
- Thomas Mroz, MD
  Cleveland Clinic
- Jason Savage, MD
  Cleveland Clinic
- Jeffrey Wang, MD
  USC
- Eric Truumees, MD
  UT Austin
- Kris Radcliff, MD
  Rothman Institute
- Frank Phillips, MD
  Rush University

*KOL represents spine surgeon leaders from across the country to inform and provide guidance on ASR development and implementation
Young Physician Committee

- Young Physician Committee (YPC) is directed at surgeons in early practice
- Educational materials and opportunities in registry science
- Equal representation of ortho and neuro
- Erica Bisson, MD and Wellington Hsu, MD as Co-Chairs
IRB Information

• ASR is a quality improvement registry which is exempt from IRB review under federal rule

• All data elements are retrospectively collected from data documented in the course of the provision of care

• If data required in ASR is novel or new to your site clinical workflow, such as PRO collection, we also maintain a centralized IRB to confirm that even if newly created, the data we capture does not require patient consent

• ASR maintains a centralized IRB protocol with WCG IRB services (previously Western IRB) to confirm a waiver of patient consent

• Most sites do not need to take any steps given the federal exemption for QI registries but a small percentage of sites wish to submit to their local IRB for confirmation and reliance on the centralized IRB is commonplace
ASR Clinical Data Elements

Two Modules Available: Cervical & Lumbar

Demographics

Patient
• Name (Last, First)
• Date of Birth
• Social Security Number
• Diagnosis (ICD-10)*
• Gender
• Race/Ethnicity
• Comorbidities (ICD-10)
• COVID-19 as prior diagnosis
• Height + Weight/Body Mass Index

Site of Service
• Name and Address (TIN/NPI)

Surgeon
• Name (NPI)

Procedure
• Type (ICD-10, CPT)*
• Date of Surgery
• Spinal Approach
• Implants and Grafts (manufacturer/lot#, UDI)
• Length of Stay
• American Society of Anesthesiologists Score
• Anticoagulation

Post-Operative/Complications
• Operative and Post-operative Complications
• Secondary Surgical Procedures

*Vanguard sites utilize an operative form for additional procedural & diagnosis detail
ASR Implants & Implant Survivorship

- ASR collects implant and graft material based on manufacturer/lot# or UDI/bar code

- ASR Component Database
  - The barcodes are paired with a component database which details all attributes associated with each implant, allowing for detailed analysis by material, brand, etc.

- ASR makes longitudinal tracking of implant survivorship in spine patients possible

- Recent example from the 2019 AJRR Annual Report Supplement
**ASR Operative Forms**

- Optional operative forms used to capture information found in the brief op notes in discrete form

- Completed by the circulating nurse or surgeon during closure to populate op note and registry needs

- Being updated to populate as a smartform that contributes data to multiple areas

- Data will inform coding, valuation and advocacy in spine care by providing more detail than currently captured via CPT / ICD coding
Patient-reported Outcomes*

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

Additional Options Accepted
- PROMIS CAT, PROMIS-29
- PROMIS Emotional Distress – Depression
- PROMIS Emotional Distress – Anxiety
- PROMIS Pain Interference
- EQ-5D

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

*Sites can utilize their existing PROMs collection mechanism or utilize ASR’s no cost PROM tool
PROM submission can occur via existing site systems/technology, via manual upload, or through the ASR PROM solution
ASR has partnered with over 45 technology vendors to facilitate the data submission process.

- Re-use data that already exists in medical record, practice management and PRO systems.

- Direct data submission and management can be handled by a technology provider with sites able to fix rejected files.
Integration of Medicare Data

- Access to **Medicare claims** inclusive of inpatient (148 data elements), outpatient (122 data elements) & National Death Index
- Linked by full identifiers for longitudinal tracking
- 2012-2019 Medicare data for all patients represented in Registry with quarterly updates
  - Medicare files ~ 1 year delayed
  - National Death Index ~ 2 years delayed
  - National Inpatient Sample (NIS) integrated as reference data for representative analyses
  - NPPES dataset incorporated for NPI validation
- Access to custom reports that compare their site to the national Annual Report analyses, show migration trends, etc.
Dashboards

ASR Dashboards display procedural and post-operative data, including patient demographics, top procedure & diagnosis codes, anesthesia type, comorbidities and readmission rate.
Site & Surgeon Feedback

Site Admins & Surgeons have accounts where they are able to:

- see their procedural, post-operative and PROM data
- compare themselves to national benchmarks
- request custom reports
- opt to submit data for quality initiatives (e.g. MOC, CC, QPP)
All PROMs

ASR Dashboards will include PROMs data:

- **All PROMs** will display national benchmarks
- **Your PROMs** will display site level PROMs data
The Value of Data

ASR is primarily a Quality Improvement effort

- Sites access and export their own data via the portal
- ASR serves as a backbone for advanced research efforts
- Sites (other partners) request ASR analysis of their data
- Access is tiered based on site contribution
- ASR may undertake internal Registry driven projects
Delivering Value for AANS & AAOS Spine Surgeons

- On-demand practice and surgeon specific dashboards
- **Comparison** to national performance benchmarks
- **Monitor** longitudinal patient outcomes *(Medicare data)*
- Maintenance of Certification credit *(ABOS and ABNS)*

- **Qualify** for national distinction programs *(Aetna, AAAHC, Blue Distinction, DNV, TJC)*
- CMS quality improvement programs *(MIPS & BPCI-A)*
- Improve the value of care delivered to patients
ASR Progress

ASR is a work in progress:
Areas of Strong Early Achievement

➢ Engagement with Regulators and Payers

➢ Buy-in from major Health Systems

➢ Capability to collect granular data at scale
ASR Progress

ASR is a work in progress:
Challenges of Spine Registry Development

➢ Complexity of Spine Data at all levels
➢ Need for focused IT involvement to build data feed
➢ We don’t know what we don’t know
Future Opportunities

ASR is a work in progress: Optimization requires surgeon engagement

➢ Encourage broad participation (former fellows/residents)
➢ Provide clinical feedback (Assess top line data validity)
➢ Provide operational feedback (meshing PROM collection)
➢ Consider data re-use opportunities (State/Local challenges)
Contact the American Spine Registry

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Custom Analytics: Analytics@AmericanSpineRegistry.org

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Webinar Recordings

- Recordings and slide decks from past webinars can be found on this page of the AAOS website.
- If you would like to view a recording of a webinar held before October 2020, please visit learn.aaos.org.
Questions?
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Improving spine care through data.