AJRR Resources for TJC
Advanced Total Hip and Knee Replacement Certification

May 31, 2023
Agenda

• AJRR Data Element & Submission Overview
• TJC Total Hip and Knee Replacement (THKR) Performance Measures
• Viewing THKR Performance Measure Data RegistryInsights®
• Available Tools and Resources for TJC Sites
AAOS Registry Program | Overview

AAOS Board of Directors
Registry Oversight Committee (ROC)

Collaborative Registries
- American Spine Registry (ASR)
  - Cervical Degenerative Spine
  - Lumbar Degenerative Spine
  - AANS & AAOS Collaboration

American Joint Replacement Registry (AJRR)
- Hip Arthroplasty
- Knee Arthroplasty
- Ankle Arthroplasty*
- Accepts data 2012 - present

Shoulder & Elbow Registry (SER)
- Shoulder Arthroplasty
- Rotator Cuff Repair
- Elbow Arthroplasty

Fracture & Trauma Registry (FTR)
- Hip Fracture
- Ankle Fracture
- Distal Radius Fracture
- Distal Femur Fracture
- Proximal Humerus

Musculoskeletal Tumor Registry (MSTR)
- Orthopaedic Sarcoma
- Metastatic Bone Disease*
- Spine Tumor*

*Modules in development
Note: Each registry module accepts data from 2016 to present unless otherwise indicated
Participation Across the Registries

Over 1,400 participating sites contracted and 14,000 registered surgeons across all 50 states.

The AJRR has been shown to be representative of national trends and contains data representing over 3.2M procedures.

ASR includes data representing over 190,000 procedures and over 160,000 patients with over 250 participating sites and over 800 registered surgeons.
Registry Data Collection | Core Data Elements

**Procedure**

**Patient**
- Name (Last, First), Date of Birth, SSN
- 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
- Implants (Manufacturer, Lot #)
- Anesthesia Type

These Core Data Elements are collected across all AAOS and Collaborative Registries.

**Procedure, continued**
- Length of Stay
- American Society of Anesthesiologists Score
- Charlson Comorbidity Index (CCI)

**Comorbidities & Complications**
- Comorbidities (ICD-10)
- COVID-19 as prior diagnosis
- Height + Weight/Body Mass Index
- Length of Stay
- American Society of Anesthesiologists Score
- Charlson Comorbidity Index (CCI)
- Operative and Post-operative Complications
PROMs

Registry participants may submit data to the registry or utilize the registry portal to collect patient reported outcomes. The portal supports multiple workflow options for collection (i.e. computer, tablet device, paper methods).

- If using the PROMs portal within RegistryInsights, surveys upload to the Registry upon completion
- Sites have the option to upload an Excel or csv file via secure pathway
- If sites use a third party technology solution, our team can work with you on how to submit your PROMs to the Registry
# PROMs Intervals

<table>
<thead>
<tr>
<th>Collection Interval</th>
<th>Definition</th>
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<tr>
<td>Baseline/Pre-operative*</td>
<td>From 90 days before procedure to the date of procedure</td>
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<tr>
<td>90 days/3 months*</td>
<td>From 30 days after procedure to 150 days after procedure</td>
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<tr>
<td>6 months</td>
<td>From 150 days after procedure to 210 days after procedure</td>
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<tr>
<td>12 months</td>
<td>From 270 days after procedure to 425 days after procedure</td>
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<tr>
<td>Yearly</td>
<td>Every year after procedure, +/- 60 days after procedure anniversary</td>
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</tbody>
</table>

*TJC PROMs Metric Intervals
Data Submission

- Use Inclusion Criteria Guide to identify AJRR procedures
  - Additionally accepted coding listed in AJRR data specifications
  - Data fields defined further in the data dictionary, along with acceptable values, and data domain for each element (demographic, pre-op, procedural, component, etc.)

- Three ways to submit:
  - Automatic submission via SFTP
  - File drop via the RegistryInsights® platform (csv, xls)
  - Via a third-party vendor authorized to submit data to the registry on a site’s behalf
Registry Data Submission Process

1: Review Data Specifications
2: Identify Data Source(s)
3: Develop Data Query Extract
4: Run Query for Test File
5: Submit Test File in SFTP or RI Upload
6: Receive Feedback on Test File
7: Submit Live File in SFTP or RI Upload
8: Access Dashboards & Reports in RI
9: Setup Surgeon User Access

*Recently submitted files can always be reviewed for rejections or flags in RegistryInsights® (RI)
**Data should be submitted at least quarterly with best practice being at least monthly
TJC Advanced THKR Certification

• Advanced Total Hip and Knee Replacement (THKR) Certification
  • A minimum of 10 patients
  • Participate in AJRR
  • 3 components to certification:
    ▪ Standards of clinical care delivery
    ▪ Use of clinical practice guidelines
    ▪ Performance measurement
      • 5 measures captured through data elements in procedure and PROMs submission
## THKR Measures

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<thead>
<tr>
<th>Measure Name</th>
<th>Description</th>
<th>Numerator</th>
<th>Denominator</th>
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<tbody>
<tr>
<td><strong>THKR-1</strong> Regional Anesthesia</td>
<td>Patients with regional anesthesia attempted or performed including spinal and epidural blocks and peripheral nerve blocks</td>
<td>Patients undergoing and total hip or total knee replacement with regional anesthesia performed</td>
<td>Patients undergoing a total hip or total knee replacement</td>
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<tr>
<td><strong>THKR-2</strong> Postoperative Ambulation on the Day of Surgery</td>
<td>Patients who ambulated postoperatively the day of surgery or ambulated in the PACU or within 4 hours of discharge from the PACU</td>
<td>Patients undergoing total hip or total knee replacement who ambulated postoperatively the day of surgery or ambulated in the PACU or within 4 hours of discharge from the PACU</td>
<td>Patients undergoing a total hip or total knee replacement</td>
</tr>
<tr>
<td><strong>THKR-3</strong> Discharged to Home</td>
<td>Patients discharged to home following a total hip or knee replacement</td>
<td>Patients discharged to home following a total hip or knee replacement</td>
<td>Patients undergoing a total hip or total knee replacement</td>
</tr>
<tr>
<td><strong>THKR-4 Preoperative and THKR-5 Postoperative Functional/Health Status Assessment</strong></td>
<td>Percentage of patients submitted to AJRR who completed the general health (VR-12 or PROMIS-Global) and joint specific (HOOS Jr./subscales or KOOS Jr./subscales) functional status assessments: Within 90 days prior to surgery and 90 days postoperatively.</td>
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AJRR Procedure Data Elements

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Required for TJC Certification</th>
<th>Acceptable Data Values and Format</th>
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<tbody>
<tr>
<td>TJC_AnesthesiaType</td>
<td>Required for TJC Certification</td>
<td>1-7 (1=General; 2=Spinal; 3=Epidural; 4=Nerve Block; Lumbar Plexus/Picoc etc. (hip); 5 = Femoral/Sciatic/Adductor/etc. (knee); 6 = Not reported or NR; 7 = Monitored Anesthesia Care (MAC)); PLEASE NOTE: a comma separation may be used if there is more than one technique administered (e.g., &quot;1, 4&quot;).</td>
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<td>TJC_Rgnl_Anesth_Excmt</td>
<td>Required for TJC Certification</td>
<td>1-6 (1=Attempted and failed; 2=Not attempted; 3=Contraindicated; 4=Not indicated; 5=Unknown; 6=Not reported or NR)</td>
</tr>
<tr>
<td>TJC_Ambulation</td>
<td>Required for TJC Certification</td>
<td>1-5 (1=Yes; Ambulation Day of Surgery or 4 hours from PACU discharge; 2=No; Ambulation Day of Surgery or 4 hours from PACU discharge; 3=No; other medical factors preventing ambulation; 4=Unknown; 5=Not reported or NR)</td>
</tr>
<tr>
<td>TJC_DISCHDISP CODE</td>
<td>Required for TJC Certification</td>
<td>Any valid CMS Patient Discharge Status Code. Common codes used are: 01 = Discharged to Home or Self Care (routine discharge); 02 = Discharged/Transferred to a Short-term General Hospital for Inpatient Care; 03 = Discharged/Transferred to a Skilled Nursing Facility (SNF) with Medicare Certification in Admission to Skilled Care; 04 = Discharged/Transferred to an Intermediate Care Facility (ICF); 05 = Discharged/Transferred to a designated cancer center or children's hospital; 06 = Discharged/Transferred to Home Care of Organized Home Health Service Organizations; 07 = Left against Medical Advice or Discontinued Care; 09 = Admitted as an Inpatient to this Hospital (This code is for use only on Medicare outpatient claims, and it applies only to those Medicare outpatient services that begin greater than three days prior to an admission); 20 = Expired (This code is used only when the patient dies); 90 = Discharged/Transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital with a planned acute care hospital inpatient readmission</td>
</tr>
<tr>
<td>TJC_Discharge_Exclusion</td>
<td>Required for TJC Certification</td>
<td>1=Yes; 2=No; 3=Unknown; 4=Not reported or NR.</td>
</tr>
<tr>
<td>TJC_Admn_Source</td>
<td>Required for TJC Certification</td>
<td>1-5 (1=Home; 2=SNF and/or Other Healthcare Facilities; 3=Other; 4=Unknown; 5=Not reported or NR)</td>
</tr>
</tbody>
</table>

• Additional procedure data used to calculate measures:
  • Procedure & Diagnosis Codes
  • Patient Death Date
  • Procedure Date
  • PROMs Completion Date & Submitted Surveys
  • Admit and Discharge Dates
RegistryInsights Dashboard Metrics
Registry Insights Dashboard Metrics

Track Performance Rates in Measures Dashboard

1. THKR-1 Regional Anesthesia (Hip)
   - National Benchmark: 88.00%
   - Institution: DemoHospital_01a, DemoHospital_01b, DemoHospital_01c, DemoHospital_01d
   - Year: 2020, 2021

2. THKR-1 Regional Anesthesia (Knee)
   - National Benchmark: 86.00%
   - Institution: DemoHospital_01c, DemoHospital_01b, DemoHospital_01a
   - Year: 2020, 2021

3. THKR-4 Preoperative Functional/Health Status Assessment (Hip)
   - National Benchmark: 87.00%
   - Institution: DemoHospital_01a, DemoHospital_01b, DemoHospital_01c, DemoHospital_01d
   - Year: 2022

4. THKR-4 Preoperative Functional/Health Status Assessment (Knee)
   - National Benchmark: 87.00%
   - Institution: DemoHospital_01a, DemoHospital_01b, DemoHospital_01c, DemoHospital_01d
   - Year: 2022

Additional note: Patients undergoing a total hip or total knee replacement with regional anesthesia attempted or performed. Regional anesthesia includes neuraxial anesthesia (spinal and epidural blocks) as well as peripheral nerve blocks.
Post-Discharge Complications

**Complication Rates** for Infection, Mechanical Complication, Fracture, Loosening, and Instability

**Linked Revisions & Readmissions** by Complication Type

Performance Measures

- Post-op Ambulation, Regional Anesthesia, Discharge to Home
- Completion of 90-day pre- and post-op PROMs
- SSI, Mortality, 90-day Readmission

Patient-Reported Outcome Measures (PROMs)

- Tracking linked pre-op, 90-day post-op, and 1-year post-op PROMs
- National Outcomes Comparison for Mean Scores and 1-year MCID
- CJR/IQR THKR PRO-PM Extract with HOOS/KOOS & PROMIS-10/VR-12 Data
New TJC Resources

- Registry Participant Quick Reference Guide
  - Measure descriptions and data elements for calculations
  - Dashboard & report (THKR) overview
- Registry Participation Toolkit
  - Measure & calculation details
  - Data submission guidance
  - Dashboard visual details & report information
- FAQs
- Registry TJC Web Page
- TJC-Specific support line - 1-800-999-2939

ABOUT THIS TOOLKIT
This toolkit provides details related to your registry participation for obtaining and maintaining your THKR certification. This guide includes information related to measure definitions, details to aid in the data submission process to appropriately calculate measures in the registry to inform quality improvement at your site, and frequently asked questions to support ongoing data submission to the registry.
### Registry Participation Quick Reference Guide

#### The Joint Commission Advanced THKR Certification Performance Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Required Data Elements for Measure Calculation</th>
</tr>
</thead>
</table>
| THKR-1 Regional Anesthesia | Patients with regional anesthesia attempted or performed including spinal and epidural blocks and peripheral nerve blocks | **Numerator:** TJCA AnasthesiaType = 2,3,4,5, TJRCr AnesthesiaExemption = 1, 3, 4  
**Denominator:** PatDOB, ProcedureDate, Procedure Codes (PX_1-PX_10), Diagnosis Codes (DX_1-DX_10), Admission Date (ADMSNDT), Discharge Date (DSCHRDT)  
**Exclusions:** LOS > 120 days, revisions, hemis, partials, complication of device/prosthesis, and malignant neoplasms based off coding (fracture is NOT an exclusion for THKR-1) |
| THKR-2 Postoperative Ambulation of the Day of Surgery | Patients who ambulated postoperatively the day of surgery or ambulated in the PACU or within 4 hours of discharge from the PACU | **Numerator:** ProcedureDate, TJCAmbulation = 1  
**Denominator:** PatDOB, ProcedureDate, Procedure Codes (PX_1-PX_10), Diagnosis Codes (DX_1-DX_10), Admission Date (ADMSNDT), Discharge Date (DSCHRDT)  
**Exclusions:** TJCAmbulation = 3, Discharge Disposition Code (03 - D/C to SNF, 07 - Left AMA), PatDeathDate on or before DSCHRDT, LOS > 120 days, revisions, hemis, partials, complication of device/prosthesis, fractures (hip, pelvis, femur), and malignant neoplasms based off coding |
| THKR-3 Discharged to Home | Patients discharged to home following a total hip or knee replacement | **Numerator:** TJCDSCHDISPCODE = 01 or 05  
**Denominator:** PatDOB, ProcedureDate, Procedure Codes (PX_1-PX_10), Diagnosis Codes (DX_1-DX_10), Admission Date (ADMSNDT), Discharge Date (DSCHRDT)  
**Exclusions:** TJCAdmitSource = 2, TJCDischargeExclusion = 1, Disposition Code (03 - D/C to SNF, 07 - Left AMA), PatDeathDate on or before DSCHRDT, LOS > 120 days, revisions, hemis, partials, complication of device/prosthesis, fractures (hip, pelvis, femur), and malignant neoplasms based off coding |

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### Resources

**Gain additional insight on cases not meeting the metric and identify excluded cases removed from the denominator by reviewing submitted Joint Commission data fields and exclusion criteria met. The below legend provides the data element responses indicating a measure exclusion. Cases that are excluded from the denominator will also have a blank in the procedure site column. Additional data element and measure calculation details can be found in the previous tables in this guide and in the Registry Participant Toolkit.**

**The Joint Commission Data Element Denominator Exclusion Legend**

<table>
<thead>
<tr>
<th>Measure</th>
<th>AJRR Data Element</th>
<th>Submitted Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>THKR-2</td>
<td>TJC_Ambulation</td>
<td>3 - site documented other medical factors preventing ambulation</td>
</tr>
<tr>
<td>THKR-2 &amp; THKR-3</td>
<td>TJCDSCHDISPCODE</td>
<td>02 - Discharged to SNF or 07 - Left AMA</td>
</tr>
<tr>
<td>THKR-3</td>
<td>TJC_AdmintSource</td>
<td>2 - Admitted from SNF and/or other healthcare facilities</td>
</tr>
<tr>
<td>THKR-3</td>
<td>TJC_DischargeExclusion</td>
<td>1 - less there is a documented medical or social reason patient was not discharged to home</td>
</tr>
</tbody>
</table>

Additional denominator exclusions are identified via ICD-10 diagnosis coding (fracture), malignant neoplasms, CPT or ICD-10 procedure coding (hernia, revisions, complications), length of stay, and patient death date where applicable. These exclusions are indicated with a “Y” in the last 4 columns of the report.

*Fracture is not an exclusion for THKR-1*

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Call 1-800-999-2999 with any questions related to The Joint Commission Advanced THKR Certification
3.3 Viewing THKR Performance Measures

The 5 THKR measures are separately displayed for hip and knee cases. An encounter date filter at the top of the dashboard allows sites to set the procedure date range to view monthly data. Hovering over any column within a tile will display the measure numerator, denominator, and performance rate for the selected time frame.

The National benchmark across all the measure tiles is a historical benchmark provided by TJC. As THKR measure data submitted to the registry grows, we will seek to establish a national registry benchmark.

The Joint Commission Advanced Certification for Total Hip and Knee Replacement (THKR) Measures

THKR-1 displays the performance rate for patients undergoing a total hip or total knee replacement with regional anesthesia attempted or performed. Regional anesthesia includes neuraxial anesthesia (spinal and epidural blocks) as well as peripheral nerve blocks. The measure is calculated from the specific TJC Anesthesia Type data element field responses and procedure and diagnosis codes indicating exclusions outlined in sections 1.1 and 1.2. The denominator is often higher than the other THKR measures as fracture cases are not excluded for this measure.

Resources

PROMs Matching

Once the patient is matched, the next step is to link PROMs to the index procedure. The table below lists the fields that are used to match PROMs data. If the data in these fields are not consistent in the record submitted, the PROMs case will not be linked to the index procedure.

<table>
<thead>
<tr>
<th>PROMs Matching</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AJRR</td>
<td>Joint, DXLat, ProcedureDate</td>
</tr>
</tbody>
</table>

Section 2: Extracting Data from EHR Systems

This section is intended to help guide staff running a query and building a report to extract data from an EHR. For successful data submission to the registry, extraction from your clinical systems is necessary for consistent data submission which is an essential step in achieving and maintaining the THKR Advanced Certification. The data elements that are specific to THKR are extracted in the same manner as the standard data elements defined in the registry data specification. The steps below provide a general overview for developing data extracts from EMR systems.
Participant Concern:
Regional Anesthesia/THKR-1 denominator is off and is including non-elective cases

Reference:
- THKR Quick Guide Measure Table for denominator and exclusion data points
- Toolkit section 1.1
TJC Use Cases

Participant Concern:
PROMs competition rate is too low for pre- and/or post-op PROMs measures (THKR-4 & THKR-5)

Reference:
- Toolkit sections 1.1 (measure table) and 1.4 (PROMs matching criteria)
- THKR Quick Guide Measure Table for measure numerator data requirements
Participant Concern:
Why are my performance measure tiles blank?

THKR Reference:
• Toolkit sections 1.2 & 1.3 highlighting TJC-specific fields for submission
• Section 1.4 - PROMs matching criteria
• Section 3.3 – performance measure visual descriptions
• Step by step data validation in FAQs
THKR Dashboard Report

Participant Concern:
Who is falling into this metric? Inpatient vs outpatient metrics?

Modified 109 Measure

TJC Data Detail Report

(9) THKR-5 Postoperative Functional/Health Status Assessment (Hip)

(10) THKR-5 Postoperative Functional/Health Status Assessment (Knee)
# THKR Dashboard Report

<table>
<thead>
<tr>
<th>Setting of Care</th>
<th>THKR1</th>
<th>THKR2</th>
<th>THKR3</th>
<th>THKR4</th>
<th>THKR5</th>
<th>Year</th>
<th>Month</th>
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</table>

Source: American Academy of Orthopaedic Surgeons

Registry Program
Improving Orthopaedic Care Through Data

5/30/2023
There is a legend in the toolkit - section 3.4 - that provides the response numbers indicating measure exclusions.
Additional Projects for TJC

Code Type dashboard filter for IP/OP separation

Site Support

Exportable reports for internal analysis

User group sessions
Improving orthopaedic care through data.

Questions?

RegistryInfo@aaos.org
www.aaos.org/registries