What Coding and CDI Specialists Should Know About Medicare's Comprehensive Care Joint Replacement (CJR) Bundled Payment Model

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RRHIIMA March 16, 2017
Objectives

This session will provide the following:

- Brief overview of the CJR bundled payment model, its components and how it works
- Review the ICD-10-PCS codes for joint replacements, revisions, and reattachments
- Review of the documentation requirements, and the pertinent coding guidelines for coding the joint procedures as well as the coding of common postoperative complications associated with joint procedures.
- Explanation of the impact that coding has on MS-DRG assignment and how the MS-DRGs are used in the CJR bundled payment model.
- Description of all joint procedure HAC and quality measures that are derived from the coded data and used in adjusting risk and payments in the CJR model.
- Summarization of impact the CJR model is having on costs, quality and payments, lessons learned, and things HIM and CDI staff can do to ensure that their organizations data is the best that it can be to support accurate risk adjusting and payments.
Comprehensive Care for Joint Replacement (CJR) Bundled Payment Model
Introduction

The CJR model uses bundled payment and quality measurement for an episode of care associated with hip and knee replacements to encourage hospitals, physicians, and post-acute care providers to work together to improve the quality and coordination of care from the initial hospitalization through recovery.

- Hip and knee replacements are the most common inpatient surgery for Medicare beneficiaries.
- In 2014, more than 400,000 hip and knee replacements for Medicare beneficiaries, costing more than $7 billion dollars
- Complication rates were 3 times higher in some facilities than others
- Average expenditure per patient ranged from $14,500 to $33,000 across geographic regions

The model went into effect April 1, 2016 for approximately 800 hospitals in counties associated with a core urban area that has a population of at least 50,000. In New York, only the areas around NYC and Buffalo were included.
Comprehensive Care for Joint Replacement Model

Key Features

- Holds participant hospitals financially accountable for the quality and cost of a CJR episode of care
- Incentivizes increased coordination of care among hospitals, physicians, and post-acute care providers
- The model includes Medicare fee-for-service beneficiaries, except those in the ESRD program, and those covered by the United Mine Workers of America. The model excludes beneficiaries who are covered by a Medicare Advantage plan.

- Episode of care begins with an admission to a participant hospital of a Medicare fee-for-service beneficiary who is ultimately discharged under either DRG 469 or DRG 470 and ends 90 days post-discharge
  - MS-DRG 469 - Major joint replacement/reattachment of lower extremity w/ MCC
  - MS-DRG 470 - Major joint replacement/reattachment of lower extremity w/o MCC

- Episode includes all related items and services paid under Medicare Part A and Part B. Currently excludes drugs covered under Part D.
Comprehensive Care for Joint Replacement Model

How It Works

- Hospitals, physicians, other providers of services and suppliers continue to be paid for each hospitalization, visit, service, etc. as usual during the year.
- CMS has established “episode” target prices for each participant hospital for the following scenarios:
  - MS-DRG 469 w/ dx of hip fractures
  - MS-DRG 469 w/o dx of hip fractures
  - MS-DRG 470 w/ hip fractures
  - MS-DRG 470 w/o hip fractures
- After a performance year, actual episode spending will be compared to the episode target prices:
  - If the actual episode spending is less than the aggregate target price, hospitals may receive a reconciliation payment.
  - If the actual episode spending is greater than the aggregate target price, hospitals will be responsible for making a payment to Medicare.
- Built into the target prices is a 3% discount. Hospitals can lessen the amount of the discount by achieving high quality scores. If quality scores are high enough may get incentive payments that more than offset the discount.
- Responsibility for repaying Medicare will begin in Year 2.
Comprehensive Care Joint Replacement Model

Services and Costs Included in the “Episode”

- Physicians' services
- Inpatient hospitalization
- Inpatient hospital readmission
- Inpatient psychiatric facility (IPF)
- Long-term care hospital (LTCH)
- Inpatient rehabilitation facility (IRF)
- Skilled nursing facility (SNF)
- Home health agency (HHA)
- Hospital outpatient services (ED, Observation, clinic visits, ambulatory surgery)
- Outpatient therapy (OT, PT, etc)
- Clinical laboratory
- Durable medical equipment (DME)
- Part B drugs and biologicals
- Hospice
Comprehensive Care Joint Replacement Model

Quality Measures Evaluated to Earn Back the 3% Discount

The composite quality score is a hospital-level summary quality score that reflects hospital performance and improvement on the following quality measures:

- Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA) measure (NQF#1550).
- Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey measure (NQF#0166).
- Results of a beneficiary survey that assesses the impact of the CJR model on beneficiary perceptions of access, satisfaction, pain, mobility, and other relevant functional performance measures.

The composite quality score also takes into consideration a hospital’s submission of THA/TKA patient-reported pre- and post-surgery outcomes and limited risk variable voluntary data.
ICD-10-PCS Coding: Joint Replacement Procedures
Joint Replacement Procedures

Joint replacement procedures remove an arthritic or damaged joint and replace it with an artificial joint (prosthesis). Patients may receive either a total joint replacement or partial joint replacement (hemiarthroplasty).

For example:

- **Total hip replacement** removes cartilage and replaces both the ball (head of the femur) and the socket (acetabulum) with artificial parts.

- **Partial hip replacement** only replaces the head of the femur (the ball), the acetabulum (the socket) is not replaced.

Coding Tip

For patients who have undergone a joint replacement procedure in the past, report the appropriate diagnosis code denoting the presence of an orthopedic joint implant (Z96.64- for hip replacement, Z96.65- for knee replacement).
Joint replacements of the lower extremities are coded to the root operation Replacement which is defined in ICD-10-PCS as:

→ Putting in or on biological or synthetic material that physically takes the place and/or function of all or a portion of a body part.

<table>
<thead>
<tr>
<th>Root operation</th>
<th>What operation does</th>
<th>Objective of procedure</th>
<th>Procedure site</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement</td>
<td>Always involves a device</td>
<td>Putting in device that replaces a body part</td>
<td>Some/all of a body part</td>
<td>Total hip replacement</td>
</tr>
</tbody>
</table>

**Coding Note**

Both total and partial joint replacements are coded to this root operation because "all or a portion of a body part" is replaced.
Joint Replacement: Root Operation

Joint procedures are performed to revise or remove the prosthesis if bone loss, wearing or loosening of the artificial joint has occurred.

Root operation **Revision** is coded when the objective of the procedure is to correct the positioning or function of a previously placed device. In root operation **Removal**, the device is simply removed.

**Coding Note**
A complete revision of a knee or hip replacement is coded to the root operation **Replacement** rather than **Revision**.
Coding Guidelines: Joint Replacement

Components of a joint procedure that are specified in the root operation definition and explanation are not coded separately.

For Example:

Resection of a joint as part of a joint replacement procedure is included in the Replacement root operation definition and is not coded separately.
Coding Joint Replacement: Body Part

The **Body Part** value (4th character) identifies whether a total joint replacement or a partial joint replacement is performed.

For Example:

- **Total hip replacement** - body part value is **Hip Joint**, right (9) or left (10).

- **Partial hip replacement** - body part value denotes which component is being replaced:
  - Hip joint, **acetabular surface**, right (A) or left (E)
  - Hip joint, **femoral surface**, right (R) or left (S)

**CAUTION:** For joint procedures be sure to use joint sites **not** femur, patella, tibia, fibula, or individual foot bones.
Coding Joint Replacement: Body Part

Bilateral body part values are available for certain body parts.

- When the identical procedure is performed on contralateral body parts, a single procedure is coded using the bilateral body part value.
- If no bilateral body part value exists, each procedure is coded separately using the appropriate body part value.

For Example:

The identical joint replacement procedure is performed on both knees

- Assign the procedure code twice using the body part values
  
  (C) Knee Joint, Right and
  
  (D) Knee Joint, Left
To code joint procedures, identify procedure components from the operative report:

- **Procedure objective** (replacement, revision)
- **Joint(s) involved** (including laterality)
- **Specific surface(s) treated** (acetabular, femoral, tibial, patellar)
- **Approach used** (percutaneous, open, endoscopic)
- **Devices used to perform procedure** (resurfacing device)
- **Devices left in place** (autologous, non-autologous, synthetic substitute, metal, polyethylene, ceramic)
- **Descriptive details of the procedure** (cemented, uncemented, internal or external fixation)
ICD-10-PCS Coding: Knee Joint Procedures
Knee Joint Replacement

Total knee joint replacement is one of the most successful procedures performed, with over 600,000 performed each year in the United States, according to the Agency for Healthcare Research and Quality.

Knee joint replacement, or arthroplasty, uses metal alloys, plastics, or polymers to cap the ends of the bones that form the knee joint with the kneecap.

Knee Joint Replacement Procedures

Different types of knee joint replacement procedures include:

- **Total knee replacement**: both the medial and lateral portions of the femur and tibia are removed and replaced with prostheses, with the ends of the remaining bones reshaped to fit the prostheses.

- **Partial (unicompartmental or unicondylar) knee replacement**: less invasive, uses a smaller incisions and devices. Unicondylar knee replacement removes either the medial or the lateral portion of the knee joint.

- **Patellofemoral joint replacement**: resurfacing and supplementation of the patellofemoral joint.

**Coding Note**

The type and material of the replacement may be a synthetic substitute (metal, ceramic, polyethylene), autologous or nonautologous tissue substitute.
Patellofemoral joint procedures involve resurfacing and placing components between the medial and lateral condyles of the femur and the patella. The liner devices supplement the knee joint action to reduce grinding.

Patellofemoral joint procedures are identified by the Device value 9 (Liner) and the Qualifier C (Patellar Surface) in table 0SU Supplement of Lower Joints.
Coding Knee Joint Replacement

Knee joint replacements (total or partial) **codes are on the 0SR table:**

1st character, Section: Medical and Surgical (0)

2nd character, Body system: Lower joint (S)

3rd character, Root operation: Replacement (R)
Coding Knee Joint Replacement

4\textsuperscript{th} character, **Body part:**

**Total knee replacement**

- Knee joint, right (C) or
- Knee joint, left (D)

**Partial knee replacement:**

1) Knee joint, **femoral surface:**
   - Right (T) or Left (U)

2) Knee joint, **tibial surface:**
   - Right (V) or Left (W)

<table>
<thead>
<tr>
<th>Body Part</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Knee Joint, Right</td>
</tr>
<tr>
<td>D</td>
<td>Knee Joint, Left</td>
</tr>
<tr>
<td>F</td>
<td>Ankle Joint, Right</td>
</tr>
<tr>
<td>G</td>
<td>Ankle Joint, Left</td>
</tr>
<tr>
<td>T</td>
<td>Knee Joint, Femoral Surface, Right</td>
</tr>
<tr>
<td>U</td>
<td>Knee Joint, Femoral Surface, Left</td>
</tr>
<tr>
<td>V</td>
<td>Knee Joint, Tibial Surface, Right</td>
</tr>
<tr>
<td>W</td>
<td>Knee Joint, Tibial Surface, Left</td>
</tr>
<tr>
<td>C</td>
<td>Knee Joint, Right</td>
</tr>
</tbody>
</table>
# Coding Knee Joint Replacement

<table>
<thead>
<tr>
<th>Approach</th>
<th>Device</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td>K Nonautologous Tissue Substitute</td>
<td></td>
</tr>
</tbody>
</table>

5th **Approach**: Always Open (0)

6th **Device**: Prosthesis composition

7th **Qualifier**: Synthetic substitute: n/a, cemented, uncemented
Coding Example: Knee Joint Replacement

**Procedure:** Partial right knee arthroplasty replacing the tibial component, cemented.

- Look in the ICD-10-PCS index for the main term **Arthroplasty**.
- **Replacement (R)** is used when all or a portion of a body part is replaced.
- The body system is **lower joints (S)**.

**Arthroplasty**

- see Repair, Upper Joints 0RQ
- see Replacement, Upper Joints 0RR
- see Supplement, Upper Joints 0RU
- see Repair, Lower Joints 0SQ
- **see Replacement, Lower Joints 0SR**
- see Supplement, Lower Joints 0SU
Coding Example: Knee Joint Replacement

- The Body Part is **knee joint, tibial surface, right (V)**
- The Approach is **open (0)** because an incision is made to insert the prosthesis
- The Device character is **synthetic substitute (J)**, and
- The Qualifier is **cemented (9)**

\[0SRV0J9\] Replacement, right knee joint, tibial surface, cemented
ICD-10-PCS Coding: Hip Joint Procedures
Hip Joint Replacement

Hip joint replacement is done to treat hips damaged by osteoarthritis, degenerative joint disease or traumatic injury.

During a total hip replacement, damaged cartilage and bone is removed and replaced with artificial parts that mimic the function of the hip joint.

A hip joint prosthesis consists of a stem (fits into the femur), the ball (replaces the head of the femur), and the cup (replaces the hip socket). Components may be cemented with bone cement.

Media credit: Christensen B: Adult health nursing, ed 6, St. Louis, 2010, Mosby.
Hip Joint Replacement Procedures

The replacement **surfaces** are identified in the 6th character **device** value. If the replacement was **cemented** (9) or **uncemented** (A) is indicated by the 7th character **qualifier** value.

<table>
<thead>
<tr>
<th>Section</th>
<th>Body System</th>
<th>Operation</th>
<th>Body Part</th>
<th>Approach</th>
<th>Device</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>S</td>
<td>R</td>
<td>Hip Joint, Right</td>
<td>Open</td>
<td>1 Synthetic Substitute, Metal</td>
<td>9 Cemented</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hip Joint, Left</td>
<td></td>
<td>2 Synthetic Substitute, Metal on Polyethylene</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hip Joint, Right</td>
<td>Open</td>
<td>3 Synthetic Substitute, Ceramic</td>
<td>A Uncemented</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hip Joint, Left</td>
<td></td>
<td>4 Synthetic Substitute, Ceramic on Polyethylene</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hip Joint, Right</td>
<td>Open</td>
<td>5 Synthetic Substitute</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hip Joint, Left</td>
<td></td>
<td>6 Synthetic Substitute</td>
<td></td>
</tr>
</tbody>
</table>

**Coding Note**

Refer to the **ICD-10-PCS Device Key** to identify common device terms or device names and the corresponding ICD-10-PCS device value.
**PROCEDURE:**

The patient underwent a total right hip arthroplasty. The prosthesis has a ceramic ball and ceramic cup and is cemented.

Start in the Index under the main term **Replacement**...

- The body system is **lower joints** (S)
- The 4th character body part is **hip joint**, right (9)
- The 5th character approach is **open** (0)
- The 6th character device is **synthetic substitute ceramic** (3)
- The 7th character qualifier is **cemented** (9)
The complete ICD-10-PCS code for a total right hip arthroplasty with a ceramic-on-ceramic cemented prosthesis:

0SR9039

### 0SR

<table>
<thead>
<tr>
<th>Section</th>
<th>OSR</th>
<th>Body System</th>
<th>Operation</th>
<th>Approach</th>
<th>Device</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Part</td>
<td>0</td>
<td>Medical and Surgical</td>
<td>Lower Joints</td>
<td>0 Open</td>
<td>1, 2, 3</td>
<td>9 Cemented</td>
</tr>
<tr>
<td>9 Hip Joint, Right</td>
<td></td>
<td>Replacement: Putting in or on biological or synthetic material that physically takes the place and/or function of all or a portion of a body part</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Hip Joint, Left</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>2 No Qualifier</td>
</tr>
</tbody>
</table>

**Coding Example: Hip Replacement**
Coding Hip Procedures: Revision

Root operation **Revision** is coded when the objective of the procedure is to correct the positioning or function of a previously placed device.

<table>
<thead>
<tr>
<th>ICD-10-PCS Value</th>
<th>Definition: Correcting, to the extent possible, a portion of a malfunctioning device or the position of a displaced device.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revision</strong></td>
<td><strong>Explanation:</strong> Revision can include correcting a malfunctioning or displaced device by taking out or putting in components of the device such as a screw or pin.</td>
</tr>
<tr>
<td></td>
<td><strong>Includes/Examples:</strong> Adjustment of position of pacemaker lead, recementing of hip prosthesis.</td>
</tr>
</tbody>
</table>

**Coding Note**

In a total revision of a hip or knee replacement, the removal or explantation of the hip/knee devices is coded with root operation **Removal** *(taking out or off a device from a body part)*. This differs from the original joint replacement, in which the removal of the native joint is not coded separately.
Coding Hip Joint Procedures

Revision (W) of a hip replacement is coded to the **Medical and Surgical** section (0) in the **Lower Joints** (S) body system. General body part values are used when the specific body part value is not in the table.

<table>
<thead>
<tr>
<th>Section</th>
<th>0</th>
<th>Medical and Surgical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body System</td>
<td>S</td>
<td>Lower Joints</td>
</tr>
<tr>
<td>Operation</td>
<td>W</td>
<td>Revision: Correcting, to the extent possible, a portion of a malfunctioning device or the position of a displaced device</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body Part</th>
<th>Approach</th>
<th>Device</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Hip Joint, Right</td>
<td>3 Percutaneous</td>
<td>0 Drainage Device</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td>B Hip Joint, Left</td>
<td>4 Percutaneous Endoscopic</td>
<td>3 Infusion Device</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X External</td>
<td>4 Internal Fixation Device</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 External Fixation Device</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 Autologous Tissue Substitute</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8 Spacer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>J Synthetic Substitute</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>K Nonautologous Tissue Substitute</td>
<td></td>
</tr>
</tbody>
</table>

**Coding Note**

The complete re-do of a hip or knee replacement is coded to the root operation **Replacement** rather than **Revision**.
The complete ICD-10-PCS code is: 0SW90JZ
Joint Resurfacing Procedures

**Hip resurfacing arthroplasty** is similar to total hip replacement. The same bones are affected and the same surgical techniques are used. The socket is replaced, as in a traditional hip replacement, but the femoral head is "resurfaced" or covered and the resurfacing material is cemented to the femur.

**Coding Note**

There is no joint resurfacing Device value in the Lower Joints, Replacement table (0SR). Instead, hip resurfacing procedures are identified with the Device value B (**Resurfacing Device**) within **Supplement of Lower Joints** (table **0SU**).
PROCEDURE: The patient underwent a hip resurfacing procedure of the right hip; the acetabulum was resurfaced with a metal resurfacing device.

Refer to Index: main term **Resurfacing device**, subterms **supplement, right, acetabular surface**…
## Coding Example: Hip Joint Resurfacing

**PROCEDURE:** Open resurfacing procedure of the right hip with the acetabulum resurfaced with a metal resurfacing device

**ICD-10-PCS code:** 0SUA0BZ

### 0SU

<table>
<thead>
<tr>
<th>Section</th>
<th>Body System</th>
<th>Operation</th>
<th>Body Part</th>
<th>Approach</th>
<th>Device</th>
<th>Qualifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0S</td>
<td>0S</td>
<td>0S</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 Hip Joint, Right</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B Hip Joint, Left</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 Hip Joint, Right</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B Hip Joint, Left</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A Hip Joint, Acetabular Surface, Right</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>E Hip Joint, Acetabular Surface, Left</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R Hip Joint, Femoral Surface, Right</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>S Hip Joint, Femoral Surface, Left</td>
<td>0 Open</td>
<td>7 Autologous Tissue Substitute</td>
<td>Z No Qualifier</td>
</tr>
</tbody>
</table>

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**Notes:**
- 0S represents the Medical and Surgical section.
- 0S represents the Lower Joints body system.
- 0S represents the Supplement: Putting in or on biological or synthetic material that physically reinforces and/or augments the function of a portion of a body part.
ICD-10-PCS Coding: Lower Extremity Reattachment Procedures
## Lower Extremity Reattachment Procedures

<table>
<thead>
<tr>
<th>Root Operation</th>
<th>What operation does</th>
<th>Objective of procedure</th>
<th>Procedure site</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reattachment</td>
<td>Puts in/puts back or move some/all of a body part</td>
<td>Putting back a detached body part</td>
<td>Some/all of a body part</td>
<td>Reattach severed leg</td>
</tr>
</tbody>
</table>

### Reattachment—Root operation M

- **Definition:** Putting back in or on all or a portion of a separated body part to its normal location or other suitable location
- **Explanation:** Vascular circulation and nervous pathways may or may not be reestablished
- **Examples:** Reattachment of hand, reattachment of avulsed kidney

Procedures coded to Reattachment include putting back a body part that has been cut off or avulsed. Nerves and blood vessels may or may not be reconnected in a Reattachment procedure.
### Lower Extremity Reattachment Procedures: Index

<table>
<thead>
<tr>
<th>Reattachment</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankle Region</td>
<td>Left 0YML0ZZ</td>
<td>Right 0YMK0ZZ</td>
</tr>
<tr>
<td>Extremity</td>
<td>Left 0YMB0ZZ</td>
<td>Right 0YM90ZZ</td>
</tr>
<tr>
<td>Femoral Region</td>
<td>Left 0YM80ZZ</td>
<td>Right 0YM70ZZ</td>
</tr>
<tr>
<td>Foot</td>
<td>Left 0YMN0ZZ</td>
<td>Right 0YM00ZZ</td>
</tr>
<tr>
<td>Knee Region</td>
<td>Left 0YMG0ZZ</td>
<td>Right 0YMF0ZZ</td>
</tr>
<tr>
<td>Leg</td>
<td>Left 0YMJ0ZZ</td>
<td>Right 0YMH0ZZ</td>
</tr>
<tr>
<td>Upper</td>
<td>Left 0YMD0ZZ</td>
<td>Right 0YMC0ZZ</td>
</tr>
</tbody>
</table>

Surgeons often refer to reattachments as “reimplantations” in their notes and operative reports. ICD-10-PCS has an index reference for Reimplantation with a “see Reattachment” cross reference.

It is the coder’s responsibility to determine what the documentation in the medical record equates to in the PCS definitions. The physician is not expected to use the terms used in PCS code descriptions, nor is the coder required to query the physician when the correlation between the documentation and the defined PCS terms is clear.

*The CJR model does not include buttock, hindquarter or toe reattachments so the index references for them are not included here.
# Lower Extremity Reattachment Procedures

<table>
<thead>
<tr>
<th>Section</th>
<th>Y</th>
<th>Medical and Surgical</th>
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<tbody>
<tr>
<td>Body System</td>
<td>Y</td>
<td>Anatomical Regions, Lower Extremities</td>
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<tr>
<td>Operation</td>
<td>M</td>
<td>Reattachment: Putting back in or on all or a portion of a separated body part to its normal location or other suitable location</td>
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ICD-10-PCS Coding for Joint Procedures: Impact on MS-DRG Assignment
Joint Procedure MS-DRGs – Part 1

MDC 8
Joint Procedures MS-DRGs

Bilateral or Multiple Major Joint Procedures of Lower Extremity MS-DRGs 461-462
- w/MCC RW: 5.1340
- w/o MCC RW: 3.2798

Wound Debridement and Skin Graft, except hand, for Musculoskeletal and Connective Tissue Disorders MS-DRGs 463-465
- w/MCC RW: 5.3812
- w/CC RW: 3.0492
- w/o CC RW: 2.0427

Revision of Hip or Knee Replacement MS-DRGs 466-468
- w/MCC RW: 5.0394
- w/CC RW: 3.4376
- w/o CC/MCC RW: 2.7513

Major Joint Replacement or Reattachment of Lower Extremity MS-DRGs 469-470
- w/MCC RW: 3.2906
- w/o MCC RW: 2.0671

Surgical Hierarchy
High---------Low
MS-DRGs 461-462: Bilateral or Multiple Major Joint Procedures of Lower Extremity

Major Joint Procedures (root operations and body parts)
- Replacements – hip, knees or ankles
- Supplements – hip only

To qualify the case must have at least one code from **two different lower extremity sites** such as the combinations listed below:
- left hip and right hip – bilateral
- left knee and right knee – bilateral
- left hip and left knee - multiple
- left hip and right ankle - multiple

**CAUTION:** For joint procedures be sure to use joint sites **not** femur, patella, tibia, fibula, or individual foot bones.
MS-DRGs 463-465: Wound Debridements and Skin Graft Except Hand for Musculoskeletal or Connective Tissue Disorders

Section: 0 Medical and Surgical
Body System: H Skin and Breast
Root operations: 8 Division
B Excision
H Insertion of tissue expander
P Removal
R Replacement
U Supplemental
X Transfer
Body part: 0-N, Skin, specified body site
Approach: Mostly X (external) but others depending on root operation
Devices: As indicated to show tissue substitutes and expanders
Qualifiers As indicated to show type of graft
Revisions of Hip and Knee Replacement

This grouping of DRGs includes the following hip and knee procedures:

- Revision of synthetic substitute of hip or knee

Combinations of the following procedures for the same hip or knee:

- Removal of joint replacement prosthesis AND replacement of joint replacement prosthesis
- Removal of joint liner AND replacement of joint replacement prosthesis
- Removal of joint liner AND supplement of joint liner

Combinations of procedures for the same hip:

- Removal of joint replacement prosthesis AND supplement with joint liner
- Removal of joint resurfacing device AND replacement with joint prosthesis
- Removal of joint resurfacing device AND supplement with joint liner
- Removal of joint spacer AND supplement with liner
- Removal of joint spacer AND replacement of joint prosthesis

**CAUTION:** For major joint procedures be sure to use joint sites **not** femur, patella, tibia, fibula, clavicle, scapula, humerus, ulnar, radius or individual foot, wrist or hand bones
Major Joint Replacement or Reattachment

Initial (Total) Joint Replacements of the Lower Extremity
- Hip
- Knee
- Ankle

Supplements (with resurfacing device)
- Hip joint
- Hip joint, acetabular surface
- Hip joint, femoral surface

Reattachments
- Lower extremity
- Lower leg
- Upper leg
- Femoral region
- Knee region
- Ankle region
- Foot

* Sites all specify right or left

CAUTION: For major joint procedures be sure to use joint sites not femur, patella, tibia, fibula, clavicle, scapula, humerus, ulnar, radius or individual foot, wrist or hand bones.
Complications of Joint Procedures
Total Hip and/or Total Knee Arthroplasty (THA/TKA) Complications Measure

This measure is the rate of specific complications occurring after an elective primary THA/TKA procedure.

The THA/TKA cases that are eligible to be included in this measure are same as those included in the THA/TKA readmission measure, which excludes cases with the following:

- Principal or secondary diagnosis of fracture(s) of the femur, hip, or pelvis
- Principal diagnosis of any of the following:
  - Malignant neoplasm(s) of the pelvis, sacrum, coccyx, lower limbs, or bone/bone marrow or a disseminated malignant neoplasm
  - Mechanical complications of the implanted joint prosthesis
  - More than two joint replacements
  - Partial joint arthroplasty, revisions, removals, or resurfacing of the joint or joint prosthesis
- Age is less than 65 years old
- Transferred to another acute care facility
- Enrolled in Medicare Parts A and B for less than 12 months prior to admission and more than 90 days after the index admission
- Enrolled in Medicare Advantage or do not have Medicare Part B
- One day stays and those who left against medical advice
The following complications are included in this measure if they occur within the specified timeframe of the admission for the procedure:

- Acute myocardial infarction, pneumonia, or sepsis/septicemia within 7 days of admission
- Surgical site bleeding, pulmonary embolism or death within 30 days of admission
- Mechanical complications, periprosthetic joint infection, or wound infection within 90 days of admission.

It is not possible to determine the exact date a complication occurred from claims data. Therefore, all AMI, pneumonia or sepsis/septicemia diagnoses with a present on admission indicator of “N” (not present at admission) that are reported on the same inpatient hospital claim as THA/TKA procedure are counted as complications.
## Total Hip and/or Total Knee Arthroplasty (THA/TKA) Complications Measure – Postoperative Complications

<table>
<thead>
<tr>
<th>Complication Type</th>
<th>Index Admission</th>
<th>Readmission</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surgical Site Bleeding</strong></td>
<td>Hemarthrosis, hemorrhage, hematoma or seroma complicating a procedure (with a POA = N) AND a procedure for controlling bleeding or incision with drainage of skin and subcutaneous tissue (procedure has to be in a secondary procedure position on the claim)</td>
<td>Readmission w/in 30 days of admission. Diagnosis code in principal or secondary discharge diagnosis fields (POA = Y or N)</td>
</tr>
<tr>
<td><strong>Pulmonary Embolism</strong></td>
<td>Iatrogenic pulmonary embolism, Saddle embolus of pulmonary artery or other PE (with POA = N) (FYI: Same criteria as HAC PE following joint replacement)</td>
<td>Readmission w/in 30 days of admission Diagnosis code in principal or secondary discharge diagnosis fields (POA = Y or N)</td>
</tr>
<tr>
<td><strong>Death</strong></td>
<td>During index admission or with 30 days of index admission date</td>
<td>Readmission w/in 90 days of admission. Diagnosis code in principal or secondary discharge diagnosis fields (POA = Y or N)</td>
</tr>
<tr>
<td><strong>Mechanical complications</strong></td>
<td>Mechanical loosening, dislocation, periprosthetic fx, Other and unspecified mechanical complication (w POA=N)</td>
<td>Readmission w/in 90 days of admission. Diagnosis code in principal or secondary discharge diagnosis fields (POA = Y or N)</td>
</tr>
<tr>
<td><strong>Periprosthetic Joint Infection / Wound Infection</strong></td>
<td>Infection or inflammatory reaction to the prosthetic device, disruption of surgical wound, disruption of traumatic injury would repair, infective postop seroma, Other postop infection, persistent postop fistula, non-healing surgical wound (POA=N) AND Joint revision or replacement or removal of prosthetic without replacement, debridement (excision or non-excisional) of wound infection, incision with drainage of skin (procedure has to be in a secondary procedure position on the claim)</td>
<td>Readmission w/in 90 days of admission. Diagnosis code in principal or secondary discharge diagnosis fields (POA = Y or N) Procedure code in principal or secondary procedure fields</td>
</tr>
</tbody>
</table>
Loosening

Prosthetic joint implants are fixed to the bone, either by cementing the prosthesis into position or by bone that over time grows into the surface of the implant.

The friction of the joint surfaces rubbing against each other wears away the surfaces of the implanted prosthesis. This creates tiny particles that accumulate around the joint.

The bonds that fixate the implant to the bone are destroyed by the body's attempts to digest the wear particles, causing what is called *aseptic loosening*. This osteolysis (digestion) process of the wear particles also can weaken or even fracture normal bone.

If the bones are weakened, surgery in the form of bone grafts or additional hardware may be needed to reinforce and support the new joint prosthesis put in to replace the original (primary) joint prosthesis. Aseptic loosening is the most common mode of failure of hip and knee implants.
Dislocation

Prosthetic joint implants can dislocate by popping out or migrating from their normal position. Dislocation of joint implants occurs more often with the hip than the knee. Dislocations may be caused by any of the following:

• Loosening
• Bone or other tissue weakness or deformity
• Scar tissue
• Incompatible component position
• Neuropathy
• Patient noncompliance
• Dislocation is common after revision surgery due to the damage done to muscles, bones, and other tissues while removing the failed prosthesis, or the general weakening or undermining of the health of surrounding tissue.
Joint Prosthetic-Related Postoperative Complications

Infections

Infected prostheses occur because bacteria attach to the foreign metal or plastic implants. Even if the implants do not loosen, the pain and swelling often make revision necessary. Infections can be either early-onset, delayed, or late-onset, as described:

- Early- and delayed-onset infections of a joint prosthesis can occur if the surgical wound is contaminated with the patient’s own endogenous flora.
- Late-onset infections usually spread to the prosthesis from a distant site.

Once the tissue surrounding a prosthesis becomes infected, there is always a risk the bone will become infected as well. This often requires the prosthesis to be replaced and occasionally removed without replacement. In the majority of cases, the joint is not replaced until the infection is resolved.
Joint Prosthetic-Related Postoperative Complications

Deep Vein Thrombosis (DVT)

DVTs in the legs or lungs are often associated with joint procedures, particularly revision procedures. The extensive surgery with subsequent twisting and trauma to the blood vessels and other tissues in the vicinity of the joint can create clotting.

The relative immobility of the patient after surgery increases the chance of clot formation. These thrombi can become emboli and travel to the lung or other parts of the body.

The care provider should document:

If patient had any DVT symptoms or diagnoses prior to admission or readmission to ensure that the correct POA indicator is assigned to the DVT code.

What prophylaxis measures were taken before and after surgery. This documentation is necessary to show that best practice guidelines were followed, and.
Documenting Joint Prosthesis Related Complications

The care provider should document the following details about joint prosthesis complications:

- Prosthetic joint involved and its laterality
- Episode of care
  - Initial encounter to diagnose and treat the complication
  - Subsequent encounter to treat a complication or a new problem associated with the original complication
  - Sequela encounter to treat a residual condition resulting from the complication
- Precise nature of the complication
  - Breakage, loosening, instability, dislocation
  - Perforation, protrusion, obstruction
  - Periprosthetic fracture around the prosthetic
  - Periprosthetic osteolysis
  - Wear of articular bearing surface
  - Infection or inflammatory reaction
  - Embolism
  - Fibrosis
  - Hemorrhage, hematoma, seroma (infected or not infected)
Things Learned from the CJR Model Project

- Perform data analysis prior to start of model to establish baselines by physician and service for costs, complications, post-op LOS, readmissions, deaths
- Involve the surgeons, attending MDs and hospitalist’s in identifying or adopting best practices
- Develop care pathways for pre-admission prep, during hospitalization for the 90 days after initial discharge
- Identify partner rehab, SNF facilities and home care agencies. Work closely with them to develop comprehensive post-discharge plans and protocols to coordinate with patient’s MD, speed recovery, minimize chances of readmission due to complications or non-compliance, and efficiently use outpatient services
- Expand pre-operative preparations to make sure patient is prepared not only for surgery but for what comes after.
  - Start PT and OT training to pre-op
  - Review post-discharge plans and expectations before surgery
  - Ensure home and caregivers are ready if patient is expected to go home
  - Provide smoking cessation, diabetes management and weight loss programs prior to hospitalizations
Wrap Up

Questions and Answers

Thank you for attending

Send Questions to:

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l.wozniak@elsevier.com
518-213-4219