Hips & Knees: Replacements, Revisions and Removals

Written by:

MEGAN BURCH, CCS, CPMA

Presented by:

RAYLENE SPICER, RHIT, CCS, CIRCC

Disclaimer

Every reasonable effort has been taken to ensure that the educational information provided in this presentation is accurate and useful. Applying best practice solutions and achieving results will vary in each hospital/facility situation. A thorough individual review of the information is recommended and to establish individual facility guidelines.

MRA does not guarantee the contents of this material and denies any implied guarantee of appropriateness of this material for any specific purpose. MRA is not liable or responsible for any loss or damage caused by the information presented in this material including but not limited to any loss of revenue, interruption of service, loss of business, or indirect damages resulting from the use of this presentation. Furthermore, MRA does not guarantee that the content of this material will restrict disputes or differences of opinions with third party payers (Medicare or otherwise) as to the specific dollar amount that is to be paid to the service provider.

Copying, distributing, recreating or any other unauthorized use of the content in these slides without the express written consent of Medical Record Associates is strictly prohibited.

Presenter's Bio

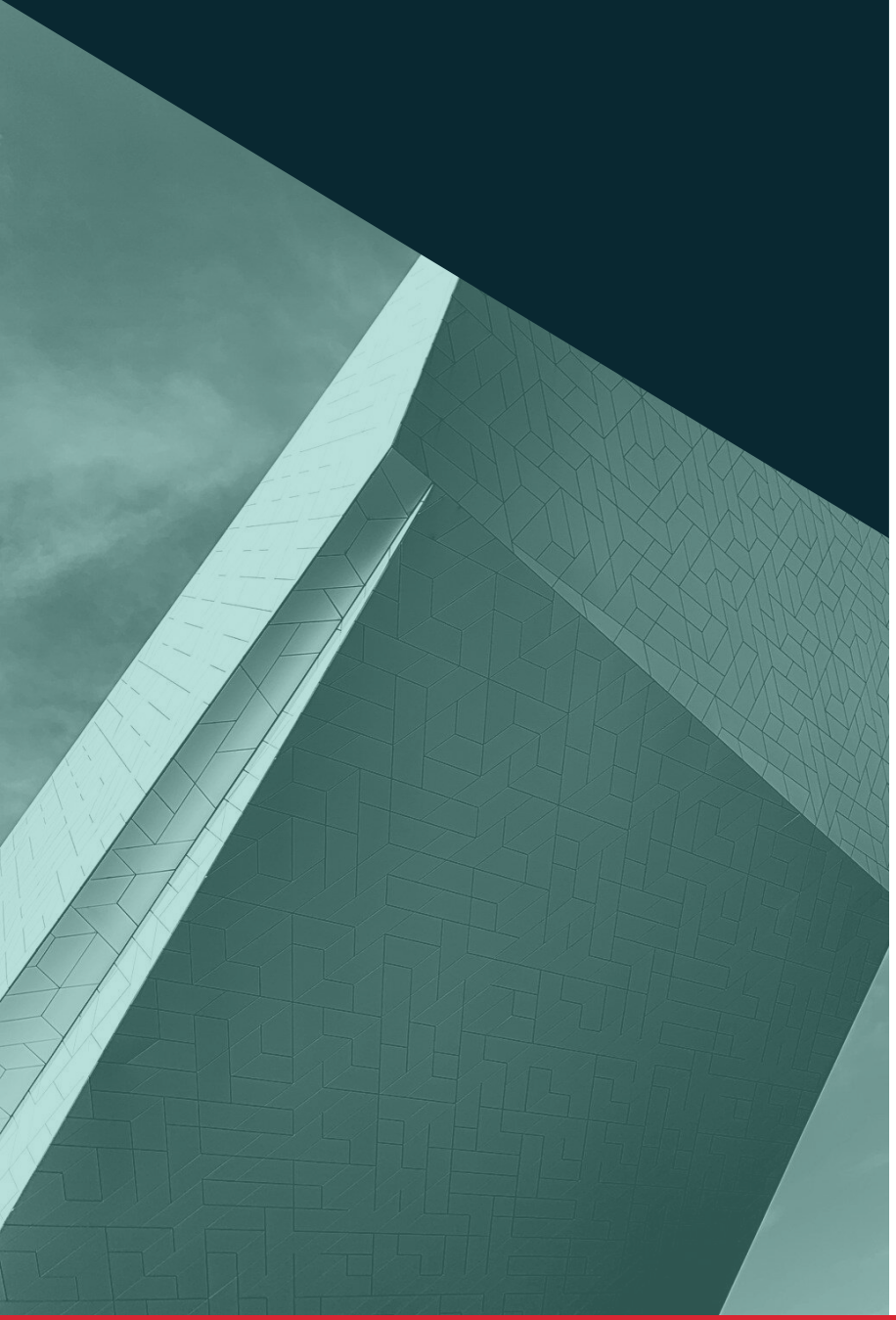
Raylene Spicer, RHIT, CCS, CIRCC is an outpatient coder and auditor with over 20 years of experience in the Health Information Management field. She has a love for all outpatient coding including interventional radiology, same day surgery, observation, and ancillary. Raylene's past positions include Coding Coordinator, Payer Relations, Insurance Billing Specialist, and Revenue Integrity Failed Claims and Denials Specialist.

HIPS

Partial and Total Hip Replacement

Overview

- Hip Replacement
- Hip Revision
- Removal of Hip Prosthesis
- History, anatomy and implant types
- Procedure and diagnosis coding



What is a Hip Replacement?

- Hemiarthroplasty (Partial) and Total Hip Arthroplasty are Orthopedic replacement procedures where damaged bones and cartilage are removed from the hip and replaced with prosthetic ones.
- In a partial replacement, only the femoral head is replaced.
- To be considered a Total Hip Replacement, the acetabulum and the femoral head are removed and replaced.

History of the Total Hip Replacement

The earliest recorded attempt at a THR occurred in 1891 by a German surgeon who used ivory to create a femoral head replacement. Over the years, many have altered and adjusted the type of material used and finally in the early 1960's Sir Jon Charnley designed the low friction arthroplasty, which is identical in principle to the prothesis used today. Partial hip replacements have evolved from Total Hip replacement.

Indications for Partial and Total Hip Replacements

- Osteoarthritis
- Fracture
- Rheumatoid arthritis
- Osteonecrosis
- Childhood hip disease

Anatomy of the Hip

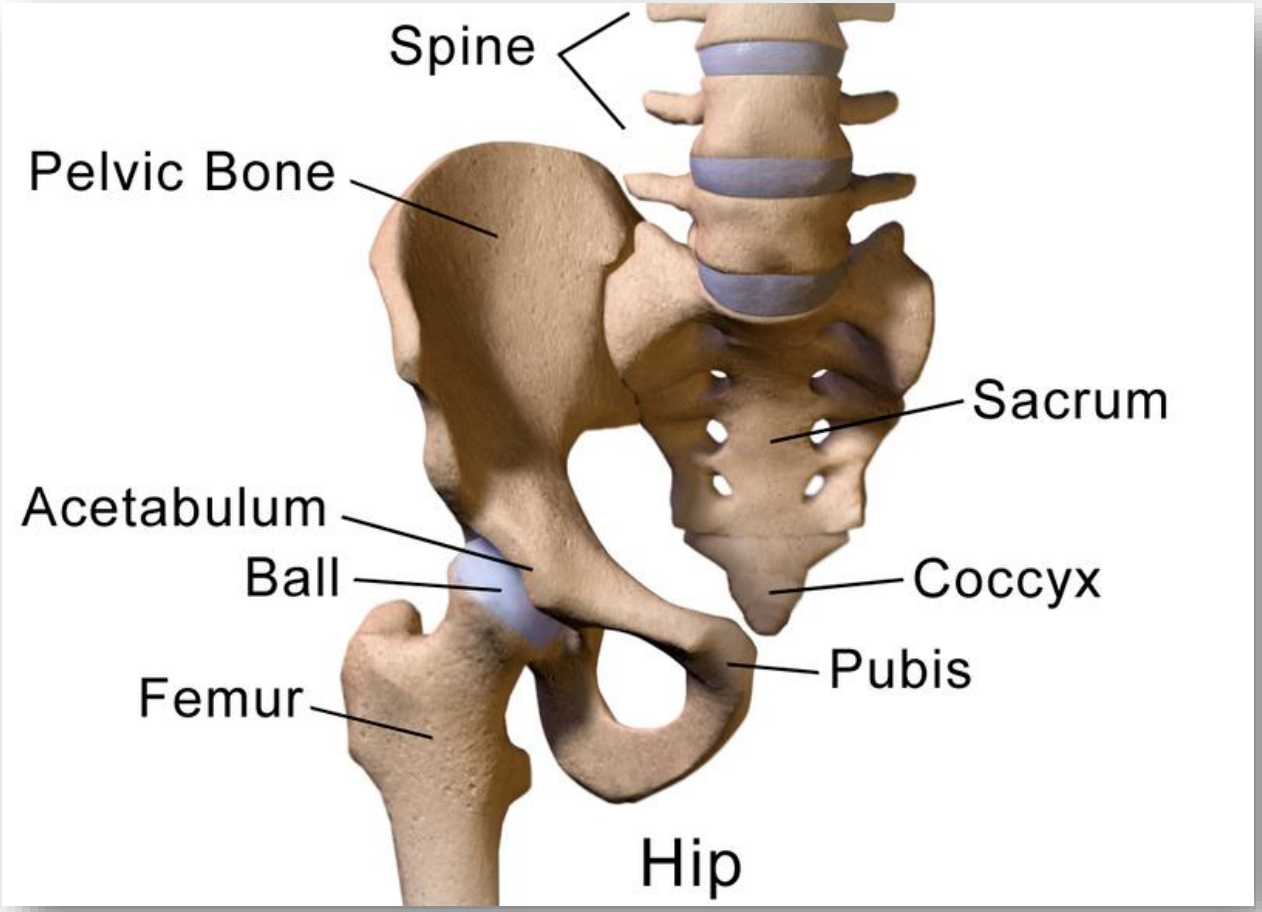
The hip is one of the largest joints

It is a ball and socket joint

A synovial membrane surrounds the joint. It lubricates the cartilage and allows for smooth movement

Ligaments connect the ball to the socket and provide stability

Anatomy of the Hip

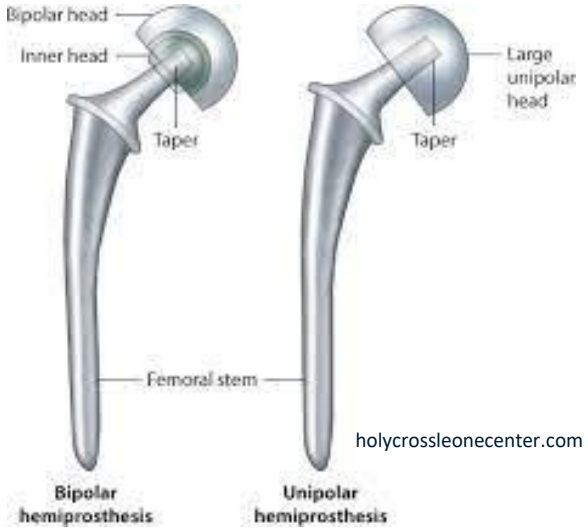


https://commons.wikimedia.org/wiki/File:Blausen_0488_HipAnatomy.png

Types of Hip Implants

Partial hip replacements (hemiarthroplasty) are available in bipolar and unipolar formats

- Bipolar: ball rotates on the femoral stem
- Unipolar: ball is attached to the stem and rotates within the socket



holycrossleonecenter.com

The two most common material of partial hip replacement implants used:

- Metal Ball - uni or bipolar
- Ceramic Ball - uni or bipolar


scoi.com

Types of Hip Implants

Four types of implants for **total hip replacements** (total hip arthroplasty, THA)

- Metal-on-Polyethylene (plastic)
- Ceramic-on-Polyethylene
- Ceramic-on-Ceramic
- Ceramic-on-Metal

orthoinfo.aaos.org

Types of Hip Implants

The Banned Implant

Metal-on-Metal

As of May 16, 2016, the FDA stopped approving metal-on-metal total hip replacements for use in the US. In metal-on-metal replacements the ball and cup slide against each other causing the release of metal particles that could potentially be absorbed into the surrounding tissue causing damage and into the blood stream causing ill effects on the patient.

Description of a Partial Hip Replacement Procedure

Partial hip replacements are generally done for femoral neck fractures that cannot be treated with other methods. The procedure itself usually takes about 2 hours.

- Access to the fracture is obtained.
- The fractured femoral head is removed with a bone saw.
- The femur is reamed and prepared to accept the new femoral stem implant
- The selected femoral stem implant is set into the reamed femur and fixed in place using bone cement.
- Incision is closed and covered.

https://www.floridaortho.com/specialties/hip-thigh/hip-hemiarthroplasty/

Description of Total Hip Procedure

The **total hip replacement** procedure will take a few hours.

- The first step of a hip replacement is to remove the damaged bone and cartilage. The damaged femoral head is dislocated and removed using bone saw.
- Once the femoral head is removed, attention is turned to the socket (acetabulum) where it is reamed to leave a smooth area for the new implant. The femoral shaft is reamed to ready it for the femoral component.
- The reamed socket and femoral stem are fitted with the new prosthesis. The socket (acetabular component) prosthesis is held in place with cement or screws. The femoral stem component can be cemented or “press fit” into the prepared bone.

The Road to Recovery

- Short hospital stay
- Immediate physical therapy
- 4-6 weeks to get back to pre-surgery activities and 3-6 months for full recovery

ICD-10-CM Coding

Common Diagnosis Codes for Partial & Total Hip Replacements

Osteoarthritis of hip

- Bilateral primary-M16.0
- Unilateral primary, Right-M16.11
- Unilateral primary, Left-M16.12
- Osteoarthritis from hip dysplasia, post-traumatic, secondary OA M16.2-M16.9

Rheumatoid Arthritis

- M05.0-M06.9
- Look closely at +/- Rheum factors status
- Check documentation very closely for this diagnosis

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Osteonecrosis

- Idiopathic, right femur-M87.051
- Idiopathic, left femur-M87.052
- Idiopathic, unspecified femur-M87.059
- Due to drugs, right femur-M87.151
- Due to drugs, left femur-M87.152
- Due to drugs, unspecified femur-M87.159
- Due to previous trauma, right femur-M87.251
- Due to previous trauma, left femur-M87.252
- Due to previous trauma, unspecified femur-M87.256
- Other secondary, right femur-M87.351
- Other secondary, left femur-M87.352
- Other secondary, unspecified femur-M87.353

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Childhood Diseases

- Hip Dysplasia
- Bone Cancer
- Legg-Calve-Perthes Disease (LCPD)
- Avascular Necrosis
- Slipped capital femoral epiphysis (SCFE)
- Osteomyelitis
- Osteoarthritis

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Fractures, traumatic

- S72.00xx-S72.26xx
- Fractures not documented as open or closed should be coded as closed
- Fractures not documented as displaced or not displaced should be coded as displaced.
- For multiple fracture code in accordance with the severity of the fracture
- Use appropriate 7th character:
  - A, Initial encounter for closed fracture
  - B, Initial encounter for open fracture
  - D, Subsequent encounter for fracture with routine healing
  - G, Subsequent encounter for fracture with delayed healing
  - K, Subsequent encounter for fracture with nonunion
  - P, Subsequent encounter for fracture with malunion
  - S, Sequela

Coding Clinic, First Quarter 2015, page 3

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Open Fractures

- Gustilo open fracture classification offers three major categories (types) depending on the mechanism of the injury, soft tissue damage, and degree of skeletal involvement.
- Type I
- Type II
- Type III
  - A, B, or C
- Fracture healing, infection, and amputation rates correlate with the degree of soft tissue injury classified by this system
- Helps determine prognosis

https://radiopaedia.org/articles/gustilo-anderson-classification?lang=us

ICD-10-CM Coding

Common Diagnosis Codes, cont.

The seventh characters available for open fractures are:

- B, Initial encounter for open fracture type I or II
- C, Initial encounter for open fracture type IIIA, IIIB, or IIIC
- E, Subsequent encounter for open fracture type I or II with routine healing
- F, Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with routine healing
- H, Subsequent encounter for open fracture type I or II with delayed healing
- J, Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with delayed healing
- M, Subsequent encounter for open fracture type I or II with nonunion
- N, Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with nonunion
- Q, Subsequent encounter for open fracture type I or II with malunion
- R, Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with malunion

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Pathological Fractures

- Pathological fracture, unspecified- M84.45xx
- Pathological fracture due to neoplastic disease-M84.55xx
- Pathological fracture in other disease-M84.65xx (code also underlying condition)

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Aftercare Codes:

- Aftercare following joint replacement surgery - Z47.1
  - Use additional code to identify the joint, Z96.6xx
    - Presence of artificial hip joint, Right- Z96.641
    - Presence of artificial hip joint , Left- Z96.642
    - Presence of artificial hip joint , Bilateral- Z96.643
    - Presence of artificial hip joint , Unspecified- Z96.649
- Initial treatment of the disease has been performed and the patient is presenting for follow-up.
  - Example: Pt presents to office for a 2-week follow-up of right THA. Pt is doing very well, no complaints, no issues.
    - Z47.1 – aftercare following joint replacement surgery
    - Z96.641 – presence of right artificial hip joint

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Aftercare Codes:

- Do not use for aftercare of traumatic fractures
- Instead, use the appropriate Chapter 19 code with the correct 7th character indicating the phase of treatment

ICD-10-CM Coding

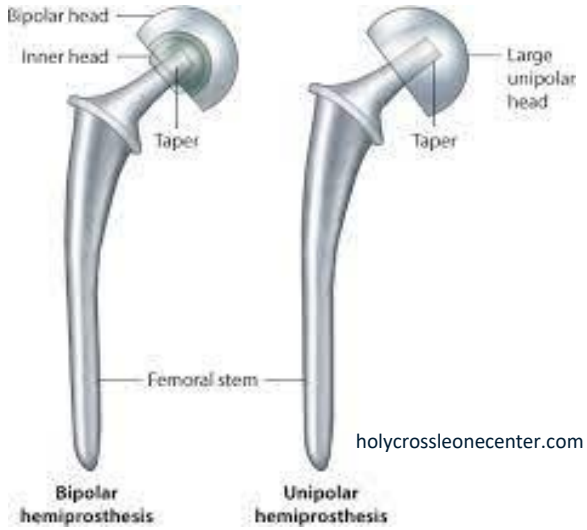
Reminders!

- Check local LCD for a complete list of payable diagnosis codes.
- ONLY assign diagnosis codes supported by your provider's documentation.

CPT Coding

<u>27125</u> - Hemiarthroplasty, hip, partial (e.g., femoral stem prosthesis, bipolar arthroplasty)

- LT/RT modifier
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge



CPT Coding

27130 - Arthroplasty, acetabular and proximal femoral prosthetic replacement (TOTAL HIP REPLACEMENT), with or without autograft or allograft

- LT/RT modifier
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

orthoinfo.aaos.org

CPT Coding

27236 – Open treatment of femoral fracture, proximal end, neck, internal fixation or prosthetic replacement

- CPT instructional note under code 27125:
  - "For prosthetic replacement following fracture of the hip, use 27236"
- LT/RT modifier
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

Total Hip Replacement - 27130

Sample Op Report

PREOPERATIVE DIAGNOSIS: Left hip degenerative joint disease.

POSTOPERATIVE DIAGNOSIS: Left hip degenerative joint disease.

PROCEDURE: Hybrid left total hip arthroplasty.

FINDINGS: Gross degenerative changes in both sides of joint with large osteophytes.

INDICATIONS: The patient had progressive degenerative changes of left hip, interference with activities of daily living and rest pain , failed conservative treatment, felt to benefit from left total hip arthroplasty. Risks and alternatives were discussed including but not limited to bleeding, infection, neurovascular damage, persistent weakness, stiffness, pain, leg length discrepancy, hip dislocations, pulmonary embolism, blood clots, sickness, and death from comorbidities. The patient understood these risks and desires the above.

Sample Op Report, *cont*.

Total Hip Replacement - 27130

DESCRIPTION OF PROCEDURE: The patient was brought into the operating suite. General endotracheal anesthesia was obtained. The patient was placed in lateral decubitus position, left-side up. All bony prominences were well-padded on a well-padded pegboard including axillary roll. Left hip was prepped and draped in usual sterile fashion. A curvilinear incision was placed over the greater trochanter. Deep resection was carried out on anterolateral approach, reflecting the anterior third of the vastus lateralis and gluteus medius sleeve. Femoral head dislocated without incidence. Femoral neck osteotomy cut carried out with correlating with preoperative templating. Acetabulum was isolated with soft tissue retractors. Broaching and reaming carried out for a size 52 cup. Richards reflection 3 cup was then press-fit with 2 screws with fair purchase. Raised liner was placed posterior and inferiorly for a 36 mm head.

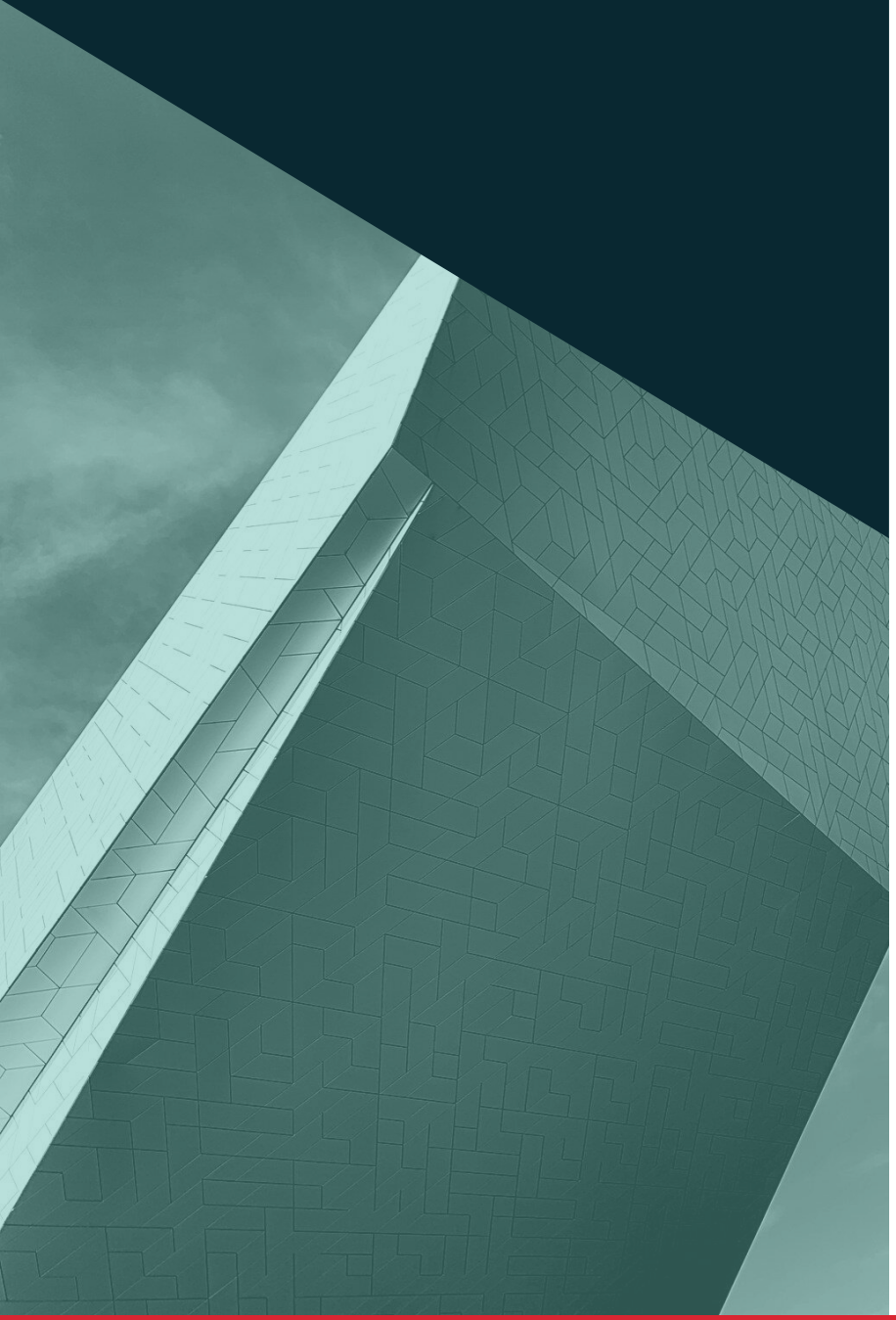
Leg was placed in anterior sterile pouch. Cookie cutter was used to gain lateral access to the canal. T-shaped reamer was used to gain distal access. Broaching and reaming carried out for a size 12 stem, high offset neck, +4 neck length, recreated the leg length and offset as measured from the ASIS to the greater trochanter.

Total Hip Replacement - 27130

Sample Op Report, *cont*.

Third generation cementing technique was carried out. Distal cement restrictor, brushing irrigation, 2 packets of Simplex P Howmedica cement with retrograde fill and proximal pressurization to cement a size 12 Synergy stem, high offset neck, +4 mm neck length with a 36 mm cobalt-chrome head. After cementation had hardened, reduction maneuver was carried out again with good stability in all maneuvers. Copious amounts of irrigation were used. Leg lengths were felt to be adequate. Offset was also adequate. Vastus lateralis and gluteus medius sleeve were reapproximated with figure-of-eight interrupted #2 Orthocord sutures. IT band was reapproximated with figure-of-eight interrupted #2 Orthocord sutures. Deeper fatty layer was closed with running 0 PDS suture. More superficial fat was reapproximated with figure-of-eight interrupted 0 Vicryl sutures. Subcutaneous tissues were reapproximated with Insorb subcuticular staples. Skin was closed again with skin staples. Again, copious amounts of irrigation were used in between each layer of closure. Wounds were dressed with Prevena, ABD, paper tape. The patient was placed in supine position. Leg lengths felt to be adequate. She was placed in an abduction pillow and taken to recovery room in stable condition.

REVISIONS/REMOVALS



What is a Revision/Removal of THR?

A total hip revision/removal is needed when the total hip replacement fails. Revision/removal of a total hip replacement is a longer and more complex surgery than the initial total hip surgery.

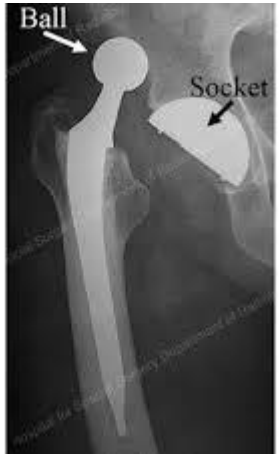
There are 3 types of revisions surgeries available

- Acetabular and Femoral Component – both ball and socket are replaced
- Acetabular Component only – only the socket is replaced
- Femoral Component only – only the “ball” femoral component is replaced

Indications for a Revision/Removal

- Recurrent dislocations
- Broken or loose parts
- Infection
- Periprosthetic fracture

hss.edu



hss.edu

Revision/Removal Procedure Description

- Removal of prosthesis
- Clean up joint
- Staged procedure
- Physical Therapy ASAP
- Revision recovery
  - 3-6 weeks – light normal activities
  - 6-weeks – drive
  - 6 month – walking without a limp
- Removal recovery
  - Dependent upon how long the spacer remains inserted before the new implant is placed
  - Once the implant is placed, the recovery period follows that of the revision surgery

ICD-10-CM Codes

Common Diagnosis Codes for Hip Revisions/Removals

Periprosthetic Fractures:

- Periprosthetic fracture around internal prosthetic joint, **right** hip-M97.01X(A, D or S)
- Periprosthetic fracture around internal prosthetic joint, **left** hip-M97.02X(A, D or S)

Coding Clinic, 4th Quarter 2016, Page 42: *Code also any underlying condition, as well as the specific type of fracture*

arthroplastyjournal.org

ICD-10-CM

Common Diagnosis Codes for Hip Revisions/Removals

Broken internal joint prosthesis:

- Broken internal **right** hip prosthesis-T84.010 (A,D or S)
- Broken internal **left** hip prosthesis-T84.011 (A,D or S)
- Broken internal hip prosthesis, **unspecified**-T84.019 (A, D or S)

Dislocation of internal joint prosthesis:

- Dislocation of internal **right** hip prosthesis-T84.020 (A,D or S)
- Dislocation of internal **left** hip prosthesis-T84.021 (A,D or S)
- Dislocation of internal hip prosthesis, **unspecified**-T84.029 (A,D or S)

Coding Clinic, Second Quarter 2019, Page 27:
prosthesis dislocation due to trauma = complication code

ICD-10-CM Coding

Common Diagnosis Codes for Hip Revisions/Removals

Mechanical Loosening of internal prosthetic joint:

- Mechanical loosening of internal **right** hip prosthesis-T84.030 (A, D or S)
- Mechanical loosening of internal **left** hip prosthesis-T84.031 (A,D or S)
- Mechanical loosening of internal hip prosthesis, **unspecified**-T84.039 (A,D or S)

ICD-10-CM Coding

Common Diagnosis Codes for Hip Revisions/Removals

Infection and inflammatory reaction due to internal joint prosthesis:

- Infection and inflammatory reaction due to **right** hip internal joint prosthesis-T84.51X(A, D or S)
- Infection and inflammatory reaction due to **left** hip internal joint prosthesis-T84.52X(A, D or S)
- Infection and inflammatory reaction due to **unspecified** hip internal joint prosthesis-T84.50X(A, D or S)
  - Use an additional code to identify infection

CPT Coding

27134 - Revision of total hip arthroplasty; **both components**, with or without autograft or allograft

27137 - **acetabular component** only, with or without autograft or allograft

27138 - **femoral component** only, with or without autograft or allograft

- Graft included

- LT/RT modifiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

CPT Coding

27090 - Removal of hip prosthesis; (separate procedure)

27091 - Removal of hip prosthesis, **complicated**, including total hip prosthesis, methylmethacrylate with or without insertion of spacer

- LT/RT modfiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

CPT Coding

27132 – Conversion of previous hip surgery to total hip arthroplasty with or without autograft or allograft

- CPT Assistant, Sept 2017, Vol 27, Iss 9, p 14
  - This code "…applies to any previous hip surgery in the patient's surgical history in which a skin incision was made."
- CPT Assistant, Dec 2008, Vol 18, Iss 12, p 3
  - Modifier 58

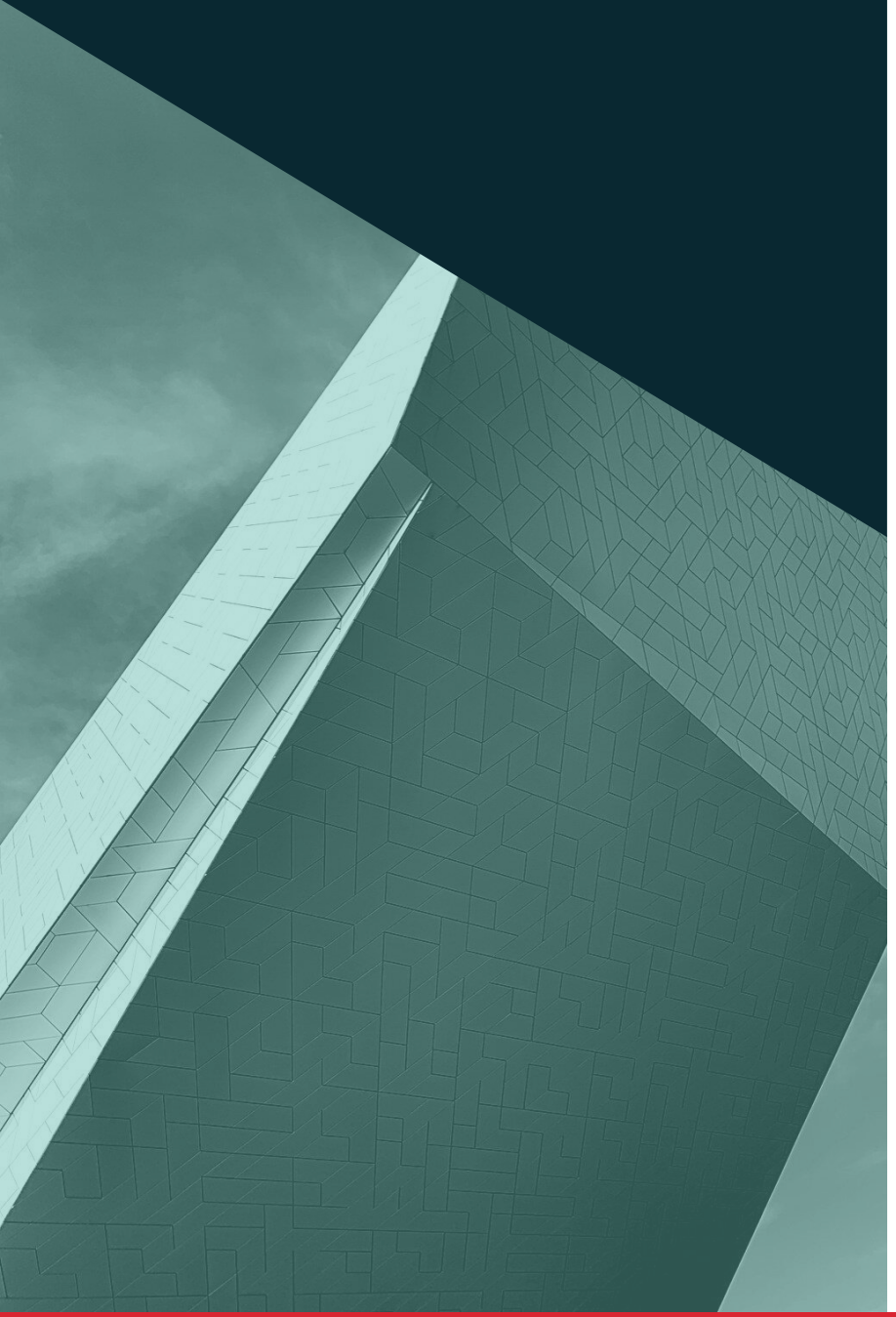
- LT/RT modfiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

KNEES

Partial and Total Knee Replacement

Overview

- Knee Replacements
- Knee Revisions
- Removal of Knee Prosthesis
- History, Anatomy and Implant Types
- Procedure and Diagnosis Coding



What is a Knee Replacement

- Partial and total knee replacement are orthopedic surgical procedures in which the damaged bone and cartilage on the distal thigh, proximal tibia and the patella are removed and replaced with a prosthetic implant.
- "Resurfacing"
  - Coding Clinic for HCPCS, Third Quarter 2021; Page 1
- A Partial knee replacement is when only a portion of the knee is resurfaced. In most cases, to be considered a total knee replacement there must be a femoral, tibial and patellar component.

History of Partial/Total Knee Replacements

History of Partial Knee Replacement	History of Total Knee Replacement
• The partial knee implant was first introduced in the early 1950's. • The first partial knee replacement was performed in 1982. It was designed by John Goodfellow and John O'Connor. • It is a minimally invasive surgery	• The first total knee replacement was performed in 1968. The inspiration for the development of the TKR began back in the 1860's when a German surgeon did the first total hip replacement. • During the early 1960's the cemented THR design inspired the development of the modern TKR. • Better instrumentation is being developed every day with some of the newest improvements being in gender specific implants.

Indications for a Partial or Total Knee Replacement

- Osteoarthritis
- Rheumatoid Arthritis
- Osteonecrosis
- Avascular Necrosis
- Other Knee Pathologies

Anatomy of the Knee

Hinged joint

Bones: femur, tibia, fibula, patella

Tendons, ligaments and cartilage, medial & lateral menisci

3 major compartments:

- Medial compartment (inside part of knee)
- Lateral compartment (outside part of knee)
- Patellofemoral compartment (front of knee between kneecap and thigh)

Anatomy of the Knee

comportho.com

Types of Knee Implants

- Several different manufactures make knee implants and there are now more than 150 different designs on the market.
- Just like with hip implants, knee implants can be made of metal, polyethylene and ceramics.
- Implants can either be cemented, cementless or hybrid fixations.
- Total knee implants replace both medial and lateral compartments, and partial knee replacements only replace one compartment.

Partial Knee Replacement

The partial knee replacement surgery takes about 45min-1hr to complete.

3 main steps:

1. First, the provider opens the joint and removes the damaged bone and cartilage from the compartment.
2. Next, the implants are placed and held to the bone with cement typically.
3. Finally, a plastic liner is inserted between the two components to create a smooth gliding surface for the new implants.

oastaug.com

Recovery:

- 1-3 day hospital stay
- PT ASAP
- Pre-surgery activities approx. 6 weeks postop

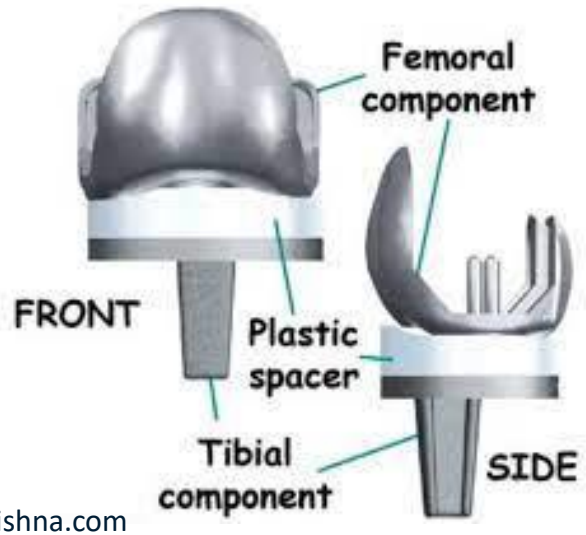
Total Knee Replacement

Once the knee is opened a special device is placed on the end of the femur to ensure the bone is cut properly and prepared for the implant. The end of the femur is cut and removed.

The metal prosthesis is cut and placed with cement on the end of the femur.

The top of the tibia is then fit with special device to ensure the tibia is cut and prepared properly for the implant. Once cut, the top of tibia is removed.

The tibial component of the implant is a 2-part system. First a metal tray is inserted into the prepared tibia. A plastic spacer is then attached to the metal tray where the femoral component will rest.



drmorhankrishna.com

Total Knee Replacement

Depending upon the degree of arthritis the undersurface of the patella may be removed, and a patellar button cemented into place behind the patella.

Once all the components are in place and movement is smooth, the incision is closed and covered.

milindtanwar.in

Total Knee Replacement Video Link

https://www.webmd.com/pain-management/video/knee-replacement

This is a short-animated video showing you what a total knee replacement consists of.

There are many out there for you to view, some animation and some live views. Take a look when you have time!

Total Knee Replacement Road to Recovery

- Total knee replacements have evolved greatly, and some patients go home the same day, while others may stay for a day or two.
- PT immediately after surgery and once you are discharged.
- Within 4-6 weeks you will be able to do pre-surgery activities and by 12 weeks you should be back to normal daily activities.

ICD-10-CM Coding

Common Diagnosis Codes for Partial & Total Knee Replacements

Osteoarthritis

- Bilateral Primary- M17.0
- Unilateral Primary, Right-M17.11
- Unilateral Primary, Left- M17.12
- Post-traumas- M17.2, M17.3xx
- Other secondary-M17.4, M17.5
- Unspecified-M17.9

Rheumatoid Arthritis

- M05.0-M06.9
- Look closely at +/- rheumatoid factors status
- Check documentation very closely for this diagnosis

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Other Knee Pathologies

- Knee Pain, Right- M25.561
- Knee Pain, Left- M25.562
- Chronic instability, Right- M23.51
- Chronic instability, Left- M23.52

ICD-10-CM Coding

Common Diagnosis Codes, cont.

Aftercare Codes:

Aftercare following joint replacement surgery - Z47.1

(use additional code to identify the joint, Z96.6xx)

- Presence of artificial knee joint, Right- Z96.651
- Presence of artificial knee joint , Left- Z96.652
- Presence of artificial knee joint , Bilateral- Z96.653
- Presence of artificial knee joint , Unspecified- Z96.659

Z-codes should not be used for aftercare of traumatic fractures. In situations where the patient has sustained a traumatic fracture that has been repaired, you will need to continue using the appropriate Chapter 19 code with the correct 7th character indicating the phase of treatment.

ICD-10-CM Coding

- Final reminders:
  - Check LCD's for a complete list of payable diagnosis codes.
  - Assign diagnosis codes supported by your provider's documentation.

CPT Coding - Partial Knee

27446 - Arthroplasty, knee condyle and plateau, medial **OR** lateral compartment (Partial Knee Replacement)

- LT/RT modifiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

CPT Coding - Total Knee

27447 - Arthroplasty, knee, condyle and plateau: medial **AND** lateral compartments with or without patella resurfacing (TOTAL KNEE REPLACEMENT)

- LT/RT modifiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

CPT Coding - Computer-Assisted Navigation

+0054T – Computer-assisted musculoskeletal surgical navigational orthopedic procedure, with image-guidance based on **fluoroscopic** images

+0055T – Computer-assisted musculoskeletal surgical navigational orthopedic procedure, with image-guidance based on **CT/MRI** images

+20985 – Computer-assisted surgical navigational procedure for musculoskeletal procedures, **image-less**

Total Knee Replacement - 27447

Sample Op Report

PREOPERATIVE DIAGNOSIS: Right knee degenerative joint disease, severe.

POSTOPERATIVE DIAGNOSIS: Right knee degenerative joint disease, severe.

PROCEDURE: Right total knee arthroplasty.

IMPLANTS UTILIZED: We used a Zimmer knee system. We used a press-fit femoral component, cruciate retaining, size 7, size E tibial tray with a 14 mm insert and a 38 mm pegged patella.

DESCRIPTION OF PROCEDURE: After adequate spinal anesthesia had been obtained, the patient's right lower extremity was prepped and draped in usual meticulous sterile fashion. Limb was exsanguinated to gravity. Tourniquet inflated to 300 TOR. An anterior midline incision was made. Subcu divided sharply. Hemostasis obtained with electrocautery. Medial parapatellar incision was made. Infrapatellar fat pad excised. Medial release performed.

Total Knee Replacement - 27447

Sample Op Report, *cont.*

The drill was used to drill distal femur. This was enlarged, irrigated, suctioned, and the intramedullary guide placed to full length of femur. Distal femoral cutting guide pinned in the appropriate height. Distal femoral cut was made. We then measured the femur using the anterior referencing guide, size 7 was appropriate size. We marked the distal femur and impacted the cutting guide into position, and the anterior and posterior chamfer cuts were then made. A rongeur was used to remove additional osteophytes.

At this time, the ACL was transected, tibia translated anteriorly. Menisci excised. The drill was used to drill center portion of the tibia. This was enlarged, irrigated, suctioned, and the intramedullary placed to full length of the tibia. The proximal tibial cutting guide placed at appropriate height. The proximal tibia was then cut while protecting the collateral ligament. The medial side measured approximately 9 mm and the lateral side 8 mm due to bone loss from the arthritis.

Total Knee Replacement
-
27447

Sample Op Report, *cont.*

The size E tray gave us best coverage of the tibia. We placed the trial components with a 14 mm insert. She had the best flexion and extension gap. Patella tracked normally. The patella was then measured, cutting guide clamped in place. Patellar cut was made. Trial 38 gave us best coverage. We drilled the PEG holes and placed the trial component. We took the knee through several cycles of flexion and extension to ensure appropriate tibial tray rotation. The rotation was then marked. We then drilled the distal femur and removed the trial components. Tibial keel cuts were made. The knee was irrigated with both pulse lavage and antibiotic irrigation. Bone plugs placed in proximal tibia and distal femur. The cement was vacuum mixed, and when it reached appropriate consistency, the knee was thoroughly dried. The tibial tray was cemented in place and excess cement was removed. Polyethylene was locked into place.

Total Knee Replacement - 27447

Sample Op Report, *cont.*

The femur impacted into position, and the knee was then taken out to 30 degrees of flexion with uniform compression placed across components. Patellar button was then cemented in place and again excess cement was removed. We then allowed the cement to fully cure. The knee was irrigated copiously with dilute Betadine and plain irrigation. Vancomycin powder was placed deep in the wound, as was Evicel. Drains were placed superolaterally, both deep and superficial. The retinacular layer closed with a combination of interrupted figure-of-eight #1 Vicryl as well as a running #1 Tevdek. Subcu closed with 2-0 Monocryl. Skin closed with staples. Sterile compressive dressing applied. Tourniquet deflated.

REVISIONS/REMOVALS

Knee Prosthesis Revision or Removal

- Previously placed implants are removed and replaced or just removed
- Usually due to device failure
- More complex procedure than a replacement, takes around 2 or 3 hours to complete

Indications for a Knee Revision or Removal

Some of the most common reasons to have to undergo a knee revision/removal surgery are:

- Loosening of the prosthesis
- Breakage of the components
- Infection
- Periprosthetic fractures

Knee Revision/Removal Procedure Description

- First, the surgeon will open the knee joint and remove the old implants and clean out all the cement.
- Next, the surgeon will insert the new tibial or femoral components and secure them with bone cement. The patella is resurfaced if needed and the components are fit back together, tested and put back in place in the revision procedure. If a removal procedure, the components are removed, and special spacer is inserted until a further time when a new implant is put in place.
- Finally, the joint is washed out and the incision is closed.

  - *Revision surgery on an infected knee will usually be done in two steps, removing the prosthesis, treating with a course of antibiotics and then inserting the new prosthesis.*

Knee Revision/Removal Recovery Period

- Knee revision recovery time is essentially the same as total knee replacement recovery. You will work with PT immediately after surgery and once you are discharged. Within 4-6 weeks you will be able to do pre-surgery activities and by 12 weeks you should be back to normal daily activities.

- Removal recovery will be dependent upon how long it takes to replace the old implant with a new one. But once the new implant is in place, it will follow the same recovery period as a revision.

ICD-10-CM Coding

Common Diagnoses for Knee Revisions/Removals

Periprosthetic Fracture:

- Periprosthetic fracture around internal prosthetic, right knee joint- M97.11X (A, D, or S)
- Periprosthetic fracture around internal prosthetic, left knee joint- M97.12X (A, D or S)

ICD-10-CM Coding

Common Diagnoses for Knee Revisions/Removals

Broken internal joint prothesis:

- Broken internal joint right knee prosthesis-T84.012(A,D,S)
- Broken internal joint left knee prosthesis-T84.013(A,D,S)

Loosening of internal joint prosthesis:

- Loosening of internal joint right knee prosthesis-T84.032(A,D,S)
- Loosening of internal joint left knee prosthesis-T84.033(A,D,S)

ICD-10-CM Coding

Common Diagnoses for Knee Revisions/Removals

Infection and inflammatory reaction due to internal prosthesis:

- Infection and inflammatory reaction due to internal **right knee** prosthesis T84.53X(A,D,S)
- Infection and inflammatory reaction due to internal **left knee** prosthesis T84.54X(A,D,S)

CPT Coding - Revision

27486 - Revision of total knee arthroplasty, with or without allograft: **1 component**

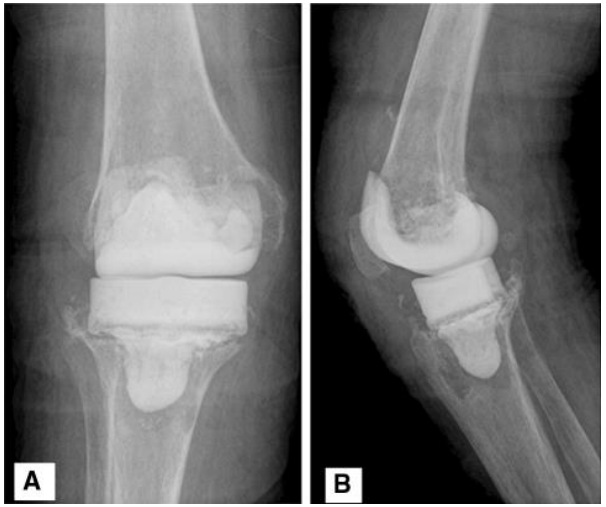
27487 - Revision of total knee arthroplasty, with or without allograft; **femoral and entire tibial component**

- LT/RT modifiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge

CPT Coding - Removal

27488 - Removal of prosthesis, including total knee prosthesis, methylmethacrylate with or without insertion of spacer, knee

- LT/RT modifiers
- If applicable append modifier 80 for an assistant surgeon or modifier AS for non-physician assistants, such as PA's or NPs when billing the professional charge



europepmc.org

Thank you!

Hip References

Current Procedural Terminology, 2020 American Medical Association

ICD-10-CM Expert for Hospitals, 2020, Optum 360, LLC

https://orthoinfo.aaos.org/en/treatment/total-hip-replacement

https://ncbi.nlm.nih.gov/pmc/articles/PMC3257425

https://bok.ahima.org/doc?oid=300644#.Xs8lqzpKjIU

https://www.fda.gov/medical-devices/metal-metal-hip-implants/concerns-about-metal-metal-hip-implants

https://www.webpt.com/blog/post/what-the-aftercare-how-to-use-z-codes-in-icd-10/

https://orthoinfo.aaos.org/en/treatment/revision-total-hip-replacement/#:~:text=Procedure,your%20primary%20total%20hip%20replacement.

https://www.floridaortho.com/specialties/hip-thigh/hip-hemiarthroplasty/

https://www.hss.edu/conditions_revision-total-hip-replacement-overview.asp

https://my.clevelandclinic.org/health/treatments/17104-hip-revision

https://radiopaedia.org/articles/gustilo-anderson-classification?lang=us

Knee References

Current Procedural Terminology, 2020 American Medical Association

ICD-10-CM Expert for Hospitals, 2020, Optum 360, LLC

Coding Clinic for HCPCS, Third Quarter 2021; page 1

https://www.hss.edu/condition-list_knee-replacement.asp

https://bonesmart.org/knee/conditions-leading-to-knee-replacement-surgery/

https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/knee-replacement-surgery-procedure

https://www.hss.edu/condition-list_knee-replacement.asp

https://www.surgeryencyclopedia.com/Fi-La/Knee-Revision-Surgery.html

Knee References

https://orthoinfo.aaos.org/en/treatment/knee-replacement-implants

https://www.stoneclinic.com/tkrillustration

https://www.uhhospitals.org/health-information/health-and-wellness-library/article/tests-and-procedures/knee-replacement-surgery

https://www.webmd.com/pain-management/video/knee-replacement

https://www.almuderis.com.au/knee-surgery/knee-arthroplasty/information/history-of-knee-arthroplasty

https://orthoinfo.aaos.org/en/treatment/unicompartmental-knee-replacement

https://www.healio.com/news/orthopedics/20120331/a-history-of-oxford-unicompartmental-knee-arthroplasty#:~:text=The%20Oxford%20unicompartmental%20knee%20replacement,a%20unicompartmental%20device%20in%201982.&text=The%20design%20comprises%20a%20spherical,base%20plate%20(Figure%201).

https://reconstructivereview.org/ojs/index.php/rr/article/view/15/14