

AMA/Specialty Society RVS Update Committee Summary of Recommendations
Harvard-Valued Allowed Charges > \$10 mil/CMS High Expenditure Procedural Codes Screen

January 2013

Arthroplasty

In the July 19, 2011 Proposed Rule for the 2012 Medicare Fee Schedule, CMS identified CPT code 27130 *Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft* and 27447 *Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)* as high expenditure procedural codes. CMS also identified CPT code 27446 *Arthroplasty, knee, condyle and plateau; medial OR lateral compartment* as a Harvard-valued service with Annual Allowed Charges Greater than \$10 million.

Prior to valuing these procedures, the specialty societies presented compelling evidence to justify a change in the physician work value. Specifically, the physician work and time components of CPT code 27446 *Arthroplasty, knee, condyle and plateau; medial OR lateral compartment* were Harvard valued. Since that time the technique and technology to perform these services has changed. There have been considerable advances in technology and technique since this code was reviewed in the Harvard survey. Implant geometry, materials, fixation methods, and bearing surfaces have changed significantly. Mobile bearing components have been developed as an alternative to fixed bearing designs. More precise systems for accurate and limited bone cuts as well limb alignment are utilized. Minimally invasive procedures with smaller incisions and limited soft tissue disruption have been developed. All of these factors have changed the physician work during a unicompartmental knee arthroplasty (UKA). Historical indications for UKA included unicompartmental arthritis, age greater than 60 years, patients with a low demand for activity, range of motion arc of 90 degrees with less than 5 degree flexion deformity, weight less than 180 pounds and an intact ACL. These patients are more active and demand better outcomes. These patients may also present with one of the following conditions: rheumatoid arthritis (RA), skeletal dysplasia, post-traumatic arthritis, infections, ligament injury reconstruction, and meniscectomyweight, ACL deficiency, and patellofemoral arthritis. Primary osteonecrosis is now also considered and acceptable indication for UKA. Given this information, the RUC accepted compelling evidence that the current work RVU of 16.38 for 27446 is potentially undervalued.

There was also discussion regarding intra service time. It was noted that surveyed intra-service time decreased compared to current time. Specifically, for CPT code 27130, surveyed intra service time was 100 minutes compared to 135 minutes; for CPT code 27446 surveyed intra-service time was 90 minutes compared to 105 minutes; and lastly, for CPT code 27447, surveyed intra service time was 100 minutes compared to 124 minutes. However, the RUC confirmed that when these codes were reviewed at the September 2005 RUC meeting, physician time was based

on data from the National Surgical Quality Improvement Program (NSQIP) rather than survey data. The RUC confirmed that the actual survey data from September 2005 was similar to the recommended survey time. For example, code 27130 had 135 minutes of NSQIP intra-service time as opposed to 110 minutes based on the survey. Therefore, the RUC agreed with the specialty societies that the recommended survey physician time data for this series of codes is appropriate and relative to past surveys.

27130 Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft

The RUC reviewed survey results from 157 orthopedic surgeons and determined that a work RVU 19.60, a direct crosswalk to 63075 *Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophylectomy; cervical, single interspace* (work RVU=19.60) is appropriate. These two services require the same intra service time and similar total time and complexity. The RUC also noted that the work of 27130 and 27447 require the same physician time and complexity to perform, and therefore should be valued the same. To further support this value, the RUC reviewed CPT codes 45400 *Laparoscopy, surgical; proctopexy (for prolapse)* (work RVU=19.44) and 44188 *Laparoscopy, surgical, colostomy or skin level cecostomy* (work RVU=19.35) and agreed that these services require similar work and intensity. The RUC also reviewed key reference service 23472 *Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))* (work RVU=22.13) and agreed that since the time and intensity is greater for 23472, this should be valued higher. The RUC reviewed and discussed the appropriate number and level of post-operative visits and determined that three hospital visits, (2) 99231 and (1)99232, one discharge day (99238) and three office visits, (1) 99212 and (2) 99213 were appropriate. The specialty society confirmed that the first hospital visit is done on the day of surgery. The survey data confirmed that it is typical for the physician to perform an Evaluation and Management (E/M) service later on the same day of surgery to evaluate wound, complete neuromuscular exam and assess the need for continued antibiotics. The RUC noted that although the number of hospital days has decreased from four to three, the overall post-operative work has not substantially changed and is now captured in post-operative office visits. The surgeon is typically involved in intensive care coordination with the primary care provider and relating to physical and occupational therapy. In addition, the physician will complete a musculoskeletal exam on the entire extremity as well as a neurovascular exam. Determining a gait pattern for these patients is essential since the extremity will be considered non-weight bearing post-surgery. **The RUC recommends a work RVU of 19.60 for CPT code 27130.**

27446 Arthroplasty, knee, condyle and plateau; medial OR lateral compartment

The RUC reviewed survey results from 138 orthopedic surgeons and determined that a work RVU of 17.48, a direct crosswalk to CPT code 27709 *Osteotomy; tibia and fibula* (work RVU=17.48) is appropriate. Although, the intra service time of 27709 is greater, the RUC agreed that 27446 is a more complex procedure. To further support this value, the RUC reviewed CPT codes 46710 *Repair of ileoanal pouch fistula/sinus (eg, perineal or vaginal), pouch advancement; transperineal approach* (work RVU=17.14) and 22554 *Arthrodesis, anterior interbody technique, including minimal discectomy to prepare interspace (other than for decompression); cervical below C2* (work RVU=17.69) and agreed that the physician work and complexity of these services are similar. The RUC reviewed and discussed the appropriate number and level of post-operative visits and determined that two hospital visits, (1) 99231 and (1) 99232, one discharge day (99238) and three office visits, (1) 99212 and (2) 99213 were appropriate. The specialty society confirmed that the first hospital visit is done on the day of surgery. The survey data confirmed that it is typical for the physician to perform an Evaluation and Management (E/M) service later on the same day of surgery to evaluate wound, complete

neuromuscular exam and assess the need for continued antibiotics. The RUC noted that although the number of hospital days has decreased from four to two, the overall post-operative work has not substantially changed and is now captured in post-operative office visits. The surgeon is typically involved in intensive care coordination with the primary care provider and relating to physical and occupational therapy. In addition, the physician will complete a musculoskeletal exam on the entire extremity as well as a neurovascular exam. Determining a gait pattern for these patients is essential since the extremity will be considered non-weight bearing post-surgery. **The RUC recommends a work RVU of 17.48 for CPT code 27446.**

27447 Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)

The RUC reviewed survey results from 157 orthopedic surgeons and determined that a work RVU 19.60, a direct crosswalk to 63075 *Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophylectomy; cervical, single interspace* (work RVU=19.60) is appropriate. These two services require the same intra service time and similar total time and complexity. The RUC also noted that the work of 27130 and 27447 require the same physician time and complexity to perform, and therefore should be valued the same. To further support this value, the RUC reviewed CPT codes 45400 *Laparoscopy, surgical; proctopexy (for prolapse)* (work RVU=19.44) and 44188 *Laparoscopy, surgical, colostomy or skin level cecostomy* (work RVU=19.35) and agreed that these services require similar work and intensity. The RUC also reviewed key reference service 23472 *Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))* (work RVU=22.13) and agreed that since the time and intensity is greater for 23472, this should be valued higher. The RUC reviewed and discussed the appropriate number and level of post-operative visits and determined that three hospital visits, (2) 99231 and (1)99232, one discharge day (99238) and three office visits, (1) 99212 and (2) 99213 were appropriate. The specialty society confirmed that the first hospital visit is done on the day of surgery. The survey data confirmed that it is typical for the physician to perform an Evaluation and Management (E/M) service later on the same day of surgery to evaluate wound, complete neuromuscular exam and assess the need for continued antibiotics. The RUC noted that although the number of hospital days has decreased from four to three, the post-operative work has not substantially changed and is now captured in post-operative office visits. The surgeon is typically involved in intensive care coordination with the primary care provider and relating to physical and occupational therapy. In addition, the physician will complete a musculoskeletal exam on the entire extremity as well as a neurovascular exam. Determining a gait pattern for these patients is essential since the extremity will be considered non-weight bearing post-surgery. **The RUC recommends a work RVU of 19.60 for CPT code 27447.**

Practice Expense:

The RUC reviewed and approved the direct practice expense inputs as recommended by the Practice Expense Subcommittee.

Work Neutrality:

The RUC's recommendation for this family of codes will result in an overall work savings that should be redistributed back to the Medicare conversion factor.

CPT Code (●New)	Tracking Number	CPT Descriptor	Global Period	Work RVU Recommendation
27130		Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft	090	19.60
27446		Arthroplasty, knee, condyle and plateau; medial OR lateral compartment	090	17.48
27447		Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)	090	19.60

**AMA/SPECIALTY SOCIETY RVS UPDATE PROCESS
SUMMARY OF RECOMMENDATION**

CPT Code:27130 Tracking Number Original Specialty Recommended RVU: **21.79**
Presented Recommended RVU: **21.79**
Global Period: 090 RUC Recommended RVU: **19.60**

CPT Descriptor: Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft

CLINICAL DESCRIPTION OF SERVICE:

Vignette Used in Survey: A 72-year-old obese female (BMI > 30) with osteoarthritis of the lumbar spine and chronic low back pain presents with severe left hip pain affecting activities of daily living. She is hypertensive and a non-insulin dependent diabetic. At operation, she undergoes a conventional total left hip arthroplasty (THA).

Percentage of Survey Respondents who found Vignette to be Typical: 89%

Site of Service (Complete for 010 and 090 Globals Only)

Percent of survey respondents who stated they perform the procedure; In the hospital 100% , In the ASC 0%, In the office 0%

Percent of survey respondents who stated they typically perform this procedure in the hospital, stated the patient is; Discharged the same day 0% , Overnight stay-less than 24 hours 0% , Overnight stay-more than 24 hours 100%

Percent of survey respondents who stated that if the patient is typically kept overnight also stated that they perform an E&M service later on the same day 59%

Moderate Sedation

Is moderate sedation inherent to this procedure in the Hospital/ASC setting? No

Percent of survey respondents who stated moderate sedation is typical in the Hospital/ASC setting? 0%

Is moderate sedation inherent to this procedure in the office setting? No

Percent of survey respondents who stated moderate sedation is typical in the office setting? 0%

Description of Pre-Service Work: Select and order the appropriate antibiotic(s) and confirm timing and administration. Assure appropriate selection, timing, and administration of DVT prophylaxis. Review results of preadmission testing including labs, X-rays, CT scans, and/or MRIs; with special attention to review of radiographs and scaled radiographs if necessary, which were used for sizing and ordering of special implants or allografts. Reexamine patient to make sure that physical findings have not changed and update H&P. Meet with patient and family to review planned procedure and post-operative management. Review informed consent with patient. Verify that all required instruments and supplies are available, including intraoperative imaging/fluoroscopy for documentation and intraoperative cell saver. Ensure that an array of implants is available for possible use in the operating room. An estimate of the appropriate size component is determined by templating with radiographs. Monitor/assist with patient positioning; padding of bony prominences; and application of thermal regulation drapes. Assess position of the extremities and head, adjust as needed. The patient's leg is placed properly on the table and positioned with proper bolstering to aid surgical exposure. A tourniquet is placed on the proximal thigh. Indicate areas of skin to be prepped and mark surgical incisions. Scrub and gown. Perform surgical "time out" with operating surgical team.

Description of Intra-Service Work: After incising the skin and the fascia the glutei were taken off the femur one at a time. Once this was completed, leg length assessment is done by placing markers in the pelvis and in the femur as well as checking through the drapes. After assessing leg length and doing a capsulectomy, the femoral head is then dislocated and femoral neck osteotomy is performed at the proper height. This is then followed by finding the femoral canal and then doing sequential raspings with the broaches until the correct rotational and axial stability is achieved. The calcar planer is then utilized to plane down the neck. The appropriate dissection and releases were then performed to expose the socket. The appropriate retractors are then placed anteriorly as well as posteriorly, all excess capsule and redundant labrum is then

removed utilizing the knife. All osteophytes are then carefully removed utilizing each of the osteotomes starting with a half inch all the way up to the one inch osteotomes. After removal of the osteophytes, the base of the acetabulum is then found by utilizing a small reamer. Once the reamer is carefully placed all the way down to the medial wall of the acetabulum, sequential reamers in 1 mm increments are utilized all the way up to correct size. This is determined based on the axial and offcenter loading of the reamers. Once this is completed, trial implants are seated and stability as well as leg length measurement are then done. Once the proper sizing and stability issues are determined, the socket is seated. The drill is then utilized and placed over the holes for the socket to insert screws. Usually 2 are depth gaged and then inserted. The central hole sealer is then placed in situ and the liner is then placed and tapped after cleaning all soft tissue. Once this was completed, trial reduction with the rasp is done again to check stability and range of motion for impingement or dislocation. Redundant capsule is then removed from the posterior aspect. The implant is then opened up and checked and then it's placed and tapped in situ. Once this is completed, copious irrigation is done. Leg length is then assessed again with trial necks. The real head/neck is then placed and tapped in situ. The hip is then reduced. An x ray is taken to verify the position of the components. Sponge and needle counts are then done and then a deep drain is placed. The closure is then performed in multilayers being careful to reattach the muscles to the proper structures.

Description of Post-Service Work: Hospital - through discharge from recovery room: Apply sterile dressings and extension splint or continuous Passive Motion apparatus (CPM). Assist in transfer of patient from operating table to gurney. Monitor transport of patient from operating room to recovery room. Monitor patient stabilization in the recovery room, with a careful neurologic examination of the extremity. Discuss postoperative recovery care with anesthesia and nursing staff including need for patient controlled analgesia. Discuss procedure and outcome with family in waiting area. Write brief operative note or complete final operative note and place in chart. Write postoperative note in the recovery room. Dictate operative report and copy referring physician(s). Call referring physician(s). Write orders for transferring to orthopaedic floor and discuss ongoing care with floor nurses.

Hospital visits: Review interval chart notes. Discuss ongoing care with floor nurses. Continue prophylaxis for DVT; monitor daily for adequacy. Assess need for continued antibiotics, order as required. Monitor and document patient progress. Assess pain scores and adequacy of analgesia. Examine patient, assess neurologic status, check wounds, change dressings, and remove drain, when appropriate. Order and monitor physiotherapy and assess range of motion progress. Assess opposite extremity for comparison. Write orders for progression to active exercise. Review nursing/other staff patient chart notes. Write orders for films, as necessary. Chart patient progress notes. Answer patient and family questions. Answer nursing/other staff questions.

Hospital Discharge Management: Review interval chart notes. Examine patient, assess neurologic status, check wounds, and change dressings. Write orders for discharge to an inpatient rehabilitation facility, a skilled nursing facility, or home. Write orders for follow-up, post-discharge labs, x-rays, home health care, and physical therapy. Write prescriptions for medications needed post-discharge. Restrictions and activity levels are discussed with the patient, family members and discharging nurse. All appropriate medical records are completed, including day of discharge progress notes, discharge summary and discharge instructions, and insurance forms.

Post-op Office Visits: Review interval chart notes. Review anticoagulation laboratory values and adjust medication as needed. Examine and talk with patient. Assess surgical wound. Remove staples and sutures, when appropriate. Assess neurovascular status, ROM, circulation, sensation, and motor function of the operated extremity. Assess opposite extremity for comparison. Review activity and restrictions. Order occupational therapy. Supervise rehabilitation. Order radiographs, as necessary. Discuss progress with PCP (verbal and written). Assess pain scores and adequacy of analgesia. Dictate progress notes for medical chart.

SURVEY DATA

RUC Meeting Date (mm/yyyy)		01/2013			
Presenter(s):	William Creevy, MD; John Heiner, MD; David Halsey, MD; Mark Froimson, MD; Frank Voss, MD				
Specialty(s):	orthopaedic surgery				
CPT Code:	27130				
Sample Size:	700	Resp N:	150	Response: 21.4 %	
Description of Sample:	random selection from membership roster				
		Low	25th pctl	Median*	75th pctl
Service Performance Rate		1.00	25.00	53.00	120.00
Survey RVW:		14.16	23.00	24.00	26.00
Pre-Service Evaluation Time:				45.00	
Pre-Service Positioning Time:				15.00	
Pre-Service Scrub, Dress, Wait Time:				20.00	
Intra-Service Time:		60.00	90.00	100.00	120.00
Immediate Post Service-Time:	25.00				
Post Operative Visits	Total Min**	CPT Code and Number of Visits			
Critical Care time/visit(s):	0.00	99291x 0.00	99292x 0.00		
Other Hospital time/visit(s):	80.00	99231x 2.00	99232x 1.00	99233x 0.00	
Discharge Day Mgmt:	38.00	99238x 1.00	99239x 0.00	99217x 0.00	
Office time/visit(s):	62.00	99211x 0.00	12x 1.00	13x 2.00	14x 0.00
Prolonged Services:	0.00	99354x 0.00	55x 0.00	56x 0.00	57x 0.00
Sub Obs Care:	0.00	99224x 0.00	99225x 0.00	99226x 0.00	

**Physician standard total minutes per E/M visit: 99291 (70); 99292 (30); 99231 (20); 99232 (40); 99233 (55); 99238(38); 99239 (55); 99217 (38); 99211 (7); 99212 (16); 99213 (23); 99214 (40); 99215 (55); 99224 (20); 99225 (40); 99226 (55); 99354 (60); 99355 (30); 99356 (60); 99357 (30)

Specialty Society Recommended Data

Please, pick the pre-service time package that best corresponds to the data which was collected in the survey process:

4 - FAC Difficult Patient/Difficult Procedure

CPT Code:	27130	Recommended Physician Work RVU: 19.60		
		Specialty Recommended Pre-Service Time	Specialty Recommended Pre Time Package	Adjustments/Recommended Pre-Service Time
Pre-Service Evaluation Time:		40.00	40.00	0.00
Pre-Service Positioning Time:		15.00	3.00	12.00
Pre-Service Scrub, Dress, Wait Time:		20.00	20.00	0.00
Intra-Service Time:		100.00		
Immediate Post Service-Time:	25.00			
Post Operative Visits	Total Min**	CPT Code and Number of Visits		
Critical Care time/visit(s):	0.00	99291x 0.00	99292x 0.00	
Other Hospital time/visit(s):	80.00	99231x 2.00	99232x 1.00	99233x 0.00
Discharge Day Mgmt:	38.00	99238x 1.0	99239x 0.0	99217x 0.00
Office time/visit(s):	62.00	99211x 0.00	12x 1.00	13x 2.00
Prolonged Services:	0.00	99354x 0.00	55x 0.00	56x 0.00
Sub Obs Care:	0.00	99224x 0.00	99225x 0.00	99226x 0.00

Modifier -51 Exempt Status

Is the recommended value for the new/revised procedure based on its modifier -51 exempt status? No

New Technology/Service:

Is this new/revised procedure considered to be a new technology or service? No

KEY REFERENCE SERVICE:

<u>Key CPT Code</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>
23472	090	22.13	RUC Time

CPT Descriptor Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))

KEY MPC COMPARISON CODES:

Compare the surveyed code to codes on the RUC's MPC List. Reference codes from the MPC list should be chosen, if appropriate that have relative values higher and lower than the requested relative values for the code under review.

<u>MPC CPT Code 1</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>	<u>Most Recent Medicare Utilization</u>
37215	090	19.68	RUC Time	8,472

CPT Descriptor 1 Transcatheter placement of intravascular stent(s), cervical carotid artery, percutaneous; with distal embolic protection

<u>MPC CPT Code 2</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>	<u>Most Recent Medicare Utilization</u>
33533	090	33.75	RUC Time	69,419

CPT Descriptor 2 Coronary artery bypass, using arterial graft(s); single arterial graft

<u>Other Reference CPT Code</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>
63075	090	19.60	RUC Time

CPT Descriptor Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophyctectomy; cervical, single interspace

RELATIONSHIP OF CODE BEING REVIEWED TO KEY REFERENCE SERVICE(S):Compare the pre-, intra-, and post-service time (by the median) and the intensity factors (by the mean) of the service you are rating to the key reference services listed above. **Make certain that you are including existing time data (RUC if available, Harvard if no RUC time available) for the reference code listed below.**

Number of respondents who choose Key Reference Code: 88 % of respondents: 58.6 %

TIME ESTIMATES (Median)

	<u>CPT Code:</u> 27130	<u>Key Reference CPT Code:</u> 23472	<u>Source of Time</u> RUC Time
Median Pre-Service Time	75.00	75.00	
Median Intra-Service Time	100.00	140.00	
Median Immediate Post-service Time	25.00	30.00	
Median Critical Care Time	0.0	0.00	
Median Other Hospital Visit Time	80.0	80.00	
Median Discharge Day Management Time	38.0	38.00	
Median Office Visit Time	62.0	85.00	
Prolonged Services Time	0.0	0.00	

Median Subsequent Observation Care Time	0.0	0.00
Median Total Time	380.00	448.00
Other time if appropriate		

INTENSITY/COMPLEXITY MEASURES (Mean)

(of those that selected Key Reference code)

Mental Effort and Judgment (Mean)

The number of possible diagnosis and/or the number of management options that must be considered	3.67	3.55
The amount and/or complexity of medical records, diagnostic tests, and/or other information that must be reviewed and analyzed	3.78	3.66
Urgency of medical decision making	2.67	2.63

Technical Skill/Physical Effort (Mean)

Technical skill required	4.53	4.38
Physical effort required	4.59	4.15

Psychological Stress (Mean)

The risk of significant complications, morbidity and/or mortality	4.45	4.05
Outcome depends on the skill and judgment of physician	4.66	4.44
Estimated risk of malpractice suit with poor outcome	4.35	4.02

INTENSITY/COMPLEXITY MEASURES**CPT Code****Reference Service 1****Time Segments (Mean)**

Pre-Service intensity/complexity	3.80	3.67
Intra-Service intensity/complexity	4.33	4.19
Post-Service intensity/complexity	3.50	3.41

Additional Rationale and Comments

Describe the process by which your specialty society reached your final recommendation. *If your society has used an IWPUR analysis, please refer to the Instructions for Specialty Societies Developing Work Relative Value Recommendations for the appropriate formula and format.*

Code 27130 was identified on the CMS high PFS expenditure list, requiring review by the RUC. The American Academy of Orthopaedic Surgeons and American Association of Hip and Knee Surgeons conducted a RUC survey and collected 150 responses.

Pre-time Package 4 was selected with the addition of 12 minutes (15 min total) for lateral decubitus positioning. This time is slightly less than other hip procedures reviewed by the RUC (eg, 27076-27078), but is consistent with the survey median positioning time.

The median intra-service time of 100 minutes is less than the current RUC database intra-service time of 135 which is based on 2005 NSQIP data. The 2005 survey median intra-service time was 110 minutes; closer to the current survey data. NSQIP is not currently a valid extant database; therefore we cannot provide updated information from NSQIP to show that the NSQIP times would be similar to what was shown in 2005. However, we believe the fact that our current survey is consistent with the 2005 survey shows that the intra-work has not materially changed.

Although both the survey median and 25th percentile wRVU support a higher value, the consensus panel does not believe there is compelling evidence to recommend an increase in the wRVU.

Therefore, we **recommend maintaining the current wRVU of 21.79**, which is less than the survey median and 25th percentile. An RVU of 21.79 is appropriately greater than MPC code 37215, which has 3 minutes more intra-time, but two less hospital visits and one less office visit. It is also similar, but slightly lower in RVW as the key reference service, 23472. Our survey respondents indicated the complexity of the surveyed code is considerably greater than 23472 and therefore, a value similar to 23472 with a higher IWP/UT is appropriate.

Rank Order with Other RUC Reviewed Hip/Knee Codes

The consensus panel believes the recommended RVW for 27130 of 21.79 maintains the correct rank order with 27236, Hemi Hip Arthroplasty, which was surveyed and reviewed at the October 2012 RUC and recommended to maintain its current value of 17.61. Although 27236 has more post-operative time because the typical patient is sicker and older and therefore requires a higher level hospital visit as well as an additional office/outpatient visit, the complexity and intensity of work for a Total Hip Arthroplasty is substantially more and the current values of 27236 and 27130 appropriately reflect this difference

CPT	RVW	Total Time	pre	intra	sd-post	99232	99231	99238	99213	99212
27236	17.61	418	75	90	30	2	1	1	3	1
27130	21.79	380	75	100	25	1	2	1	2	1

The consensus panel also believes the recommended RVW for 27130 of 21.79, combined with the recommended RVW for 27447, Total Knee Arthroplasty, of 22.13 creates appropriate rank order between these procedures. The current values for 27130 and 27447 are slightly out of rank order and by decreasing the RVW for 27447 and maintaining the current RVW of 27130, the difference in complexity/intensity correctly reflects the fact that Total Knee Arthroplasty is a more technically intense procedure where more time is spent in the insertion and fitting of the prosthesis than is the case of Total Hip Arthroplasty where more time is spent exposing the joint and in closing.

CPT	RVW	Total Time	pre	intra	sd-post	99232	99231	99238	99213	99212
27130	21.79	380	75	100	25	1	2	1	2	1
27447	22.13	380	75	100	25	1	2	1	2	1

Medicare Utilization

Code 27130 was identified on the CMS high PFS expenditure list, requiring review by the RUC. The AAOS and AAHKS reviewed the Medicare utilization for 27130 to determine if there were any significant recent increases in Medicare volume which might suggest misvaluation as the Relativity Assessment Workgroup has focused on in recent reviews of existing procedure values. We note the following Medicare volumes:

2007: 105,136

2008: 105,041

Specialty	Frequency	Percentage	%
-----------	-----------	------------	---

Estimate the number of times this service might be **provided to Medicare patients** nationally in a one-year period?
 116,189 If this is a recommendation from multiple specialties please estimate frequency and percentage for each specialty.
 Please explain the rationale for this estimate. RUC database

Specialty orthopaedic surgery	Frequency 115500	Percentage 99.40 %	
-------------------------------	------------------	--------------------	--

Specialty	Frequency	Percentage	%
-----------	-----------	------------	---

Specialty	Frequency	Percentage	%
-----------	-----------	------------	---

Do many physicians perform this service across the United States? Yes

Professional Liability Insurance Information (PLI)

If the surveyed code is an existing code and the specialty believes the specialty utilization mix will not change, enter the surveyed existing CPT code number 27130

If this code is a new/revised code or an existing code in which the specialty utilization mix will change, please select another crosswalk based on a similar specialty mix.

**AMA/SPECIALTY SOCIETY RVS UPDATE PROCESS
SUMMARY OF RECOMMENDATION**

CPT Code: 27446 Tracking Number Original Specialty Recommended RVU: **17.48**
Presented Recommended RVU: **17.48**
Global Period: 090 RUC Recommended RVU: **17.48**

CPT Descriptor: Arthroplasty, knee, condyle and plateau; medial OR lateral compartment

CLINICAL DESCRIPTION OF SERVICE:

Vignette Used in Survey: A 67-year-old obese female (BMI>30) with osteoarthritis of the knee joint presents with increased varus of the right knee affecting activities of daily living. She is a non-insulin dependent diabetic. At operation, she undergoes a uni-compartmental knee replacement.

Percentage of Survey Respondents who found Vignette to be Typical: 67%

Site of Service (Complete for 010 and 090 Globals Only)

Percent of survey respondents who stated they perform the procedure; In the hospital 99% , In the ASC 1%, In the office 0%

Percent of survey respondents who stated they typically perform this procedure in the hospital, stated the patient is; Discharged the same day 2% , Overnight stay-less than 24 hours 3% , Overnight stay-more than 24 hours 96%

Percent of survey respondents who stated that if the patient is typically kept overnight also stated that they perform an E&M service later on the same day 59%

Moderate Sedation

Is moderate sedation inherent to this procedure in the Hospital/ASC setting? No

Percent of survey respondents who stated moderate sedation is typical in the Hospital/ASC setting? 0%

Is moderate sedation inherent to this procedure in the office setting? No

Percent of survey respondents who stated moderate sedation is typical in the office setting? 0%

Description of Pre-Service Work: Select and order the appropriate antibiotic(s) and confirm timing and administration. Assure appropriate selection, timing, and administration of DVT prophylaxis. Review results of preadmission testing including labs, X-rays, CT scans, and/or MRIs; with special attention to review of radiographs and scaled radiographs if necessary, which were used for sizing and ordering of special implants or allografts. Reexamine patient to make sure that physical findings have not changed and update H&P. Meet with patient and family to review planned procedure and post-operative management. Review informed consent with patient. Verify that all required instruments and supplies are available, including intraoperative imaging/fluoroscopy for documentation and intraoperative cell saver. Ensure that an array of implants is available for possible use in the operating room. An estimate of the appropriate size component is determined by templating with radiographs. Monitor/assist with patient positioning; padding of bony prominences; and application of thermal regulation drapes. Assess position of the extremities and head, adjust as needed. The patient's leg is placed properly on the table and positioned with proper bolstering to aid surgical exposure. A tourniquet is placed on the proximal thigh. Indicate areas of skin to be prepped and mark surgical incisions. Scrub and gown. Perform surgical "time out" with operating surgical team.

Description of Intra-Service Work: After limb exsanguination, the tourniquet is elevated. An appropriate incision for unicompartmental knee arthroplasty is used. After exposure, the knee is carefully inspected visually for the presence of arthritis in the two non-operative compartments. The ACL is inspected and tested. The remnant meniscus and the osteophytes of the operative compartment are removed. The tibia is exposed sufficiently to allow proximal (usually medial) resection of the tibia without injury to the ACL, PCL or MCL. After adequate distal femoral resection has been made, the femur is sized and the appropriate jig to complete the posterior and posterior chamfer cut is used to cut and drill the femur. Posterior femoral osteophytes can then be removed.

Then the improved visualization allows proper sizing and preparation of the tibial surface. Once the trial implants have been placed a complete examination of the alignment, ligamentous balance, range of motion and patellar tracking is done. The appropriate implants are then selected.

The knee is prepared for cementing with careful retractor placement, pulsatile lavage, and suction to dry the cut bony surface. Cement is applied to the tibial surface and the tibial component is impacted. Excess cement is then removed from the posterior tibial recess. Then the femoral component is cemented as well. A trial polyethylene is used to pressurize the components onto the bony surface. After the cement has cured, excess cement is carefully removed from around the components. Then the correct polyethylene is placed, the knee is again tested, the tourniquet is deflated and hemostasis is achieved. The knee wound is closed in layers.

Description of Post-Service Work: Hospital - through discharge from recovery room: Apply sterile dressings and extension splint or continuous Passive Motion apparatus (CPM). Assist in transfer of patient from operating table to gurney. Monitor transport of patient from operating room to recovery room. Monitor patient stabilization in the recovery room, with a careful neurologic examination of the extremity. Discuss postoperative recovery care with anesthesia and nursing staff including need for patient controlled analgesia. Discuss procedure and outcome with family in waiting area. Write brief operative note or complete final operative note and place in chart. Write postoperative note in the recovery room. Dictate operative report and copy referring physician(s). Call referring physician(s). Write orders for transferring to orthopaedic floor and discuss ongoing care with floor nurses.

Hospital visits: Review interval chart notes. Discuss ongoing care with floor nurses. Continue prophylaxis for DVT; monitor daily for adequacy. Assess need for continued antibiotics, order as required. Monitor and document patient progress. Assess pain scores and adequacy of analgesia. Examine patient, assess neurologic status, check wounds, change dressings, and remove drain, when appropriate. Order and monitor physiotherapy and assess range of motion progress. Assess opposite extremity for comparison. Write orders for progression to active exercise. Review nursing/other staff patient chart notes. Write orders for films, as necessary. Chart patient progress notes. Answer patient and family questions. Answer nursing/other staff questions.

Hospital Discharge Management: Review interval chart notes. Examine patient, assess neurologic status, check wounds, and change dressings. Write orders for discharge to an inpatient rehabilitation facility, a skilled nursing facility, or home. Write orders for follow-up, post-discharge labs, x-rays, home health care, and physical therapy. Write prescriptions for medications needed post-discharge. Restrictions and activity levels are discussed with the patient, family members and discharging nurse. All appropriate medical records are completed, including day of discharge progress notes, discharge summary and discharge instructions, and insurance forms.

Post-op Office Visits: Review interval chart notes. Review anticoagulation laboratory values and adjust medication as needed. Examine and talk with patient. Assess surgical wound. Remove staples and sutures, when appropriate. Assess neurovascular status, ROM, circulation, sensation, and motor function of the operated extremity. Assess opposite extremity for comparison. Review activity and restrictions. Order occupational therapy. Supervise rehabilitation. Order radiographs, as necessary. Discuss progress with PCP (verbal and written). Assess pain scores and adequacy of analgesia. Dictate progress notes for medical chart.

SURVEY DATA

RUC Meeting Date (mm/yyyy)		01/2013				
Presenter(s):	William Creevy, MD; John Heiner, MD; David Halsey, MD; Mark Froimson, MD; Frank Voss, MD					
Specialty(s):	orthopaedic surgery (AAOS, AAHKS)					
CPT Code:	27446					
Sample Size:	700	Resp N:	138	Response: 19.7 %		
Description of Sample:	random selection from membership roster					
		Low	25th pctl	Median*	75th pctl	High
Service Performance Rate		0.00	1.00	5.00	15.00	150.00
Survey RVW:		13.00	20.00	22.00	24.00	45.00
Pre-Service Evaluation Time:				45.00		
Pre-Service Positioning Time:				15.00		
Pre-Service Scrub, Dress, Wait Time:				20.00		
Intra-Service Time:		60.00	75.00	90.00	105.00	150.00
Immediate Post Service-Time:		<u>20.00</u>				
Post Operative Visits	Total Min**	CPT Code and Number of Visits				
Critical Care time/visit(s):	<u>0.00</u>	99291x 0.00	99292x 0.00			
Other Hospital time/visit(s):	<u>60.00</u>	99231x 1.00	99232x 1.00	99233x 0.00		
Discharge Day Mgmt:	<u>38.00</u>	99238x 1.00	99239x 0.00	99217x 0.00		
Office time/visit(s):	<u>62.00</u>	99211x 0.00	12x 1.00	13x 2.00	14x 0.00	15x 0.00
Prolonged Services:	<u>0.00</u>	99354x 0.00	55x 0.00	56x 0.00	57x 0.00	
Sub Obs Care:	<u>0.00</u>	99224x 0.00	99225x 0.00	99226x 0.00		

**Physician standard total minutes per E/M visit: 99291 (70); 99292 (30); 99231 (20); 99232 (40); 99233 (55); 99238(38); 99239 (55); 99217 (38); 99211 (7); 99212 (16); 99213 (23); 99214 (40); 99215 (55); 99224 (20); 99225 (40); 99226 (55); 99354 (60); 99355 (30); 99356 (60); 99357 (30)

Specialty Society Recommended Data

Please, pick the pre-service time package that best corresponds to the data which was collected in the survey process:

4 - FAC Difficult Patient/Difficult Procedure

CPT Code:	27446	Recommended Physician Work RVU: 17.48			
		Specialty Recommended Pre-Service Time	Specialty Recommended Pre Time Package	Adjustments/Recommended Pre-Service Time	
Pre-Service Evaluation Time:		40.00	40.00	0.00	
Pre-Service Positioning Time:		15.00	3.00	12.00	
Pre-Service Scrub, Dress, Wait Time:		20.00	20.00	0.00	
Intra-Service Time:		90.00			
Immediate Post Service-Time:		<u>20.00</u>			
Post Operative Visits	Total Min**	CPT Code and Number of Visits			
Critical Care time/visit(s):	<u>0.00</u>	99291x 0.00	99292x 0.00		
Other Hospital time/visit(s):	<u>60.00</u>	99231x 1.00	99232x 1.00	99233x 0.00	
Discharge Day Mgmt:	<u>38.00</u>	99238x 1.0	99239x 0.0	99217x 0.00	
Office time/visit(s):	<u>62.00</u>	99211x 0.00	12x 1.00	13x 2.00	14x 0.00 15x 0.00
Prolonged Services:	<u>0.00</u>	99354x 0.00	55x 0.00	56x 0.00	57x 0.00
Sub Obs Care:	<u>0.00</u>	99224x 0.00	99225x 0.00	99226x 0.00	

Modifier -51 Exempt Status

Is the recommended value for the new/revised procedure based on its modifier -51 exempt status? No

New Technology/Service:

Is this new/revised procedure considered to be a new technology or service? No

KEY REFERENCE SERVICE:

<u>Key CPT Code</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>
23472	090	22.13	RUC Time

CPT Descriptor Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))

KEY MPC COMPARISON CODES:

Compare the surveyed code to codes on the RUC's MPC List. Reference codes from the MPC list should be chosen, if appropriate that have relative values higher and lower than the requested relative values for the code under review.

<u>MPC CPT Code 1</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>	<u>Most Recent Medicare Utilization</u>
33249	090	15.17	RUC Time	50,309

CPT Descriptor 1 Insertion or replacement of permanent pacing cardioverter-defibrillator system with transvenous lead(s), single or dual chamber

<u>MPC CPT Code 2</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>	<u>Most Recent Medicare Utilization</u>
37215	090	19.68	RUC Time	8,472

CPT Descriptor 2 Transcatheter placement of intravascular stent(s), cervical carotid artery, percutaneous; with distal embolic protection

<u>Other Reference CPT Code</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>
27709	090	17.48	RUC Time

CPT Descriptor Osteotomy; tibia and fibula

RELATIONSHIP OF CODE BEING REVIEWED TO KEY REFERENCE SERVICE(S):Compare the pre-, intra-, and post-service time (by the median) and the intensity factors (by the mean) of the service you are rating to the key reference services listed above. **Make certain that you are including existing time data (RUC if available, Harvard if no RUC time available) for the reference code listed below.**

Number of respondents who choose Key Reference Code: 55 % of respondents: 39.8 %

TIME ESTIMATES (Median)

	CPT Code: 27446	Key Reference CPT Code: 23472	Source of Time RUC Time
Median Pre-Service Time	75.00	75.00	
Median Intra-Service Time	90.00	140.00	
Median Immediate Post-service Time	20.00	30.00	
Median Critical Care Time	0.0	0.00	
Median Other Hospital Visit Time	60.0	80.00	
Median Discharge Day Management Time	38.0	38.00	
Median Office Visit Time	62.0	85.00	
Prolonged Services Time	0.0	0.00	

Median Subsequent Observation Care Time	0.0	0.00
Median Total Time	345.00	448.00
Other time if appropriate		

INTENSITY/COMPLEXITY MEASURES (Mean)

(of those that selected Key Reference code)

Mental Effort and Judgment (Mean)

The number of possible diagnosis and/or the number of management options that must be considered	3.57	3.50
The amount and/or complexity of medical records, diagnostic tests, and/or other information that must be reviewed and analyzed	3.56	3.59
Urgency of medical decision making	2.78	2.89

Technical Skill/Physical Effort (Mean)

Technical skill required	4.41	4.30
Physical effort required	3.96	3.93

Psychological Stress (Mean)

The risk of significant complications, morbidity and/or mortality	4.00	3.91
Outcome depends on the skill and judgment of physician	4.57	4.43
Estimated risk of malpractice suit with poor outcome	4.04	3.91

INTENSITY/COMPLEXITY MEASURES**CPT Code****Reference Service 1****Time Segments (Mean)**

Pre-Service intensity/complexity	3.56	3.59
Intra-Service intensity/complexity	4.11	4.11
Post-Service intensity/complexity	3.39	3.50

Additional Rationale and Comments

Describe the process by which your specialty society reached your final recommendation. *If your society has used an IWP/UT analysis, please refer to the Instructions for Specialty Societies Developing Work Relative Value Recommendations for the appropriate formula and format.*

Compelling Evidence to Increase wRVU

- Evidence that incorrect assumptions were made in the previous valuation of the service**
 Harvard utilized the AMA Physician Masterfile to draw names for their surveys. While general orthopaedic surgeons can perform arthroplasties, it is more typical for patients to be referred to orthopaedic surgeons who specialize in joint replacement. We do not believe that all specialty surgeons were surveyed for these codes, since the AMA Masterfile did not delineate orthopaedic specialties.
- Evidence that the patient population has changed**
 Historical indications for unicompartmental knee arthroplasty (UKA) included unicompartmental arthritis, age greater than 60 years, low demand for activity, range of motion arc of 90 degrees with < 5 degree flexion deformity, weight < 180 pounds, and an intact ACL. More recently, the indications have expanded especially with respect to age, weight, ACL deficiency, and patellofemoral arthritis. Primary osteonecrosis is now also considered and acceptable indication for UKA. Therefore, the population of patients undergoing this procedure is significantly different than it was in the 1980's and 1990's.
- Evidence that technology has changed physician work**
 Since the late 1980's when this code was reviewed in the Harvard survey, there have been considerable advances in technology and technique. Implant geometry, materials, fixation methods, and bearing surfaces have changed significantly. Mobile bearing components have been developed as an alternative to fixed bearing designs. More precise systems for accurate and limited bone cuts as well limb alignment are utilized. Minimally invasive procedures with smaller incisions and limited soft tissue disruption have been developed. All of these factors have changed the physician work during a UKA.

Recommended Value

The American Academy of Orthopaedic Surgeons and the American Association of Hip and Knee Surgeons, and the conducted a RUC survey and collected 138 responses.

Pre-time Package 4 was selected with the addition of 12 minutes (15 min total) for positioning the patient's leg on the table with proper bolstering to aid surgical exposure, positioning equipment for intraoperative imaging, and application of a tourniquet. This time is consistent with other knee procedures reviewed by the RUC (eg, 27556-27558) and consistent with the survey median positioning time.

Based on the compelling evidence noted above, the consensus panel reviewing the survey data believe the work to perform 27446 has increased since the previous review by Harvard in the late 1980s. The consensus panel reviewed the survey median and 25th percentile work RVUs and determined those values were too high.

Instead, **we recommend crosswalking the work RVU (17.48) from RUC reviewed code 27709** (*Osteotomy; tibia and fibula*). Although 27709 has slightly greater intra-time, the post-op work for 27709 is less than 27446. Total time for both codes is almost identical.

CPT	RVW	Total time	pre	intra	sd-post	99232	99231	99238	99213	99212
27446	17.48	345	75	90	20	1	1	1	2	1
27709	17.48	346	68	108	15		2	1	2	2

Rank Order with Other RUC Reviewed Hip/Knee Codes

The consensus panel believes the recommended RVW for 27446, combined with the recommended RVW for 27447, Total Knee Arthroplasty, creates appropriate rank order between these procedures. The current values for 27446 and 27447 are slightly out of rank order, and by slightly increasing the RVW for 27446, and slightly decreasing the RVW for 27447, both the difference in time and in complexity/intensity is correct.

CPT	RVW	Total time	pre	intra	sd-post	99232	99231	99238	99213	99212
27446	17.48	345	75	90	20	1	1	1	2	1
27447	22.13	380	75	100	25	1	2	1	2	1

Estimate the number of times this service might be provided nationally in a one-year period?

If the recommendation is from multiple specialties, please provide the frequency and percentage for each specialty. Please explain the rationale for this estimate. national frequency not available

Specialty	Frequency	Percentage	%
Specialty	Frequency	Percentage	%
Specialty	Frequency	Percentage	%

Estimate the number of times this service might be **provided to Medicare patients** nationally in a one-year period?

12,506 If this is a recommendation from multiple specialties please estimate frequency and percentage for each specialty. Please explain the rationale for this estimate. RUC database

Specialty orthopaedic surgery	Frequency 12500	Percentage 99.95 %
-------------------------------	-----------------	--------------------

Specialty	Frequency	Percentage	%
-----------	-----------	------------	---

Specialty	Frequency	Percentage	%
-----------	-----------	------------	---

Do many physicians perform this service across the United States? Yes

Professional Liability Insurance Information (PLI)

If the surveyed code is an existing code and the specialty believes the specialty utilization mix will not change, enter the surveyed existing CPT code number 27446

If this code is a new/revised code or an existing code in which the specialty utilization mix will change, please select another crosswalk based on a similar specialty mix.

**AMA/SPECIALTY SOCIETY RVS UPDATE PROCESS
SUMMARY OF RECOMMENDATION**

CPT Code:27447 Tracking Number Original Specialty Recommended RVU: **22.13**
Presented Recommended RVU: **22.13**
Global Period: 090 RUC Recommended RVU: **19.60**

CPT Descriptor: Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)

CLINICAL DESCRIPTION OF SERVICE:

Vignette Used in Survey: A 72-year-old obese female (BMI > 30) with bilateral osteoarthritis of the knee joint presents with increased varus of the right knee affecting activities of daily living. She is hypertensive and a non-insulin dependent diabetic. At operation, she undergoes a conventional total right knee arthroplasty (TKA).

Percentage of Survey Respondents who found Vignette to be Typical: 89%

Site of Service (Complete for 010 and 090 Globals Only)

Percent of survey respondents who stated they perform the procedure; In the hospital 100% , In the ASC 0%, In the office 0%

Percent of survey respondents who stated they typically perform this procedure in the hospital, stated the patient is; Discharged the same day 0% , Overnight stay-less than 24 hours 0% , Overnight stay-more than 24 hours 100%

Percent of survey respondents who stated that if the patient is typically kept overnight also stated that they perform an E&M service later on the same day 58%

Moderate Sedation

Is moderate sedation inherent to this procedure in the Hospital/ASC setting? No

Percent of survey respondents who stated moderate sedation is typical in the Hospital/ASC setting? 0%

Is moderate sedation inherent to this procedure in the office setting? No

Percent of survey respondents who stated moderate sedation is typical in the office setting? 0%

Description of Pre-Service Work: Select and order the appropriate antibiotic(s) and confirm timing and administration. Assure appropriate selection, timing, and administration of DVT prophylaxis. Review results of preadmission testing including labs, X-rays, CT scans, and/or MRIs; with special attention to review of radiographs and scaled radiographs if necessary, which were used for sizing and ordering of special implants or allografts. Reexamine patient to make sure that physical findings have not changed and update H&P. Meet with patient and family to review planned procedure and post-operative management. Review informed consent with patient. Verify that all required instruments and supplies are available, including intraoperative imaging/fluoroscopy for documentation and intraoperative cell saver. Ensure that an array of implants is available for possible use in the operating room. An estimate of the appropriate size component is determined by templating with radiographs. Monitor/assist with patient positioning; padding of bony prominences; and application of thermal regulation drapes. Assess position of the extremities and head, adjust as needed. The patient's leg is placed properly on the table and positioned with proper bolstering to aid surgical exposure. A tourniquet is placed on the proximal thigh. Indicate areas of skin to be prepped and mark surgical incisions. Scrub and gown. Perform surgical "time out" with operating surgical team.

Description of Intra-Service Work: After the tourniquet is elevated following exsanguination, an acceptable surgical incision is utilized to expose the joint. After everting the patella, appropriate soft tissue elevation and removal is performed to expose and visualize the joint. Care and attention is utilized to evaluate the ligament balance of the knee and appropriate soft tissue releases are performed to restore balance to the joint. The remnant meniscal tissue and overlying osteophytes are removed and if indicated, the cruciate ligaments are released. Next, attention is turned to the patella. The patella is measured and then the articular surface is resected at the appropriate depth. The optimal component size is selected and the fixation holes drilled. Next, attention is turned to the distal femur. The intramedullary canal is drilled and the distal femoral

cutting block is applied. The alignment of the block is confirmed and the distal femoral resection is made. The AP and ML size of the distal femur is evaluated and the appropriate implant size selected following which the remaining chamfer and AP bone cuts of the distal femur are made. The remainder of the posterior cruciate ligament is excised to expose everything back to the capsule. This tissue is resected, taking great care to leave the collateral ligaments intact and protect the neurovascular structures. The tibia is subluxed forward and the tibial cutting guide is applied, the optimal position in all planes confirmed and the bone cut made. The tibia is sized for the appropriate implant and the bone prepared. Next, the trial components are inserted and a trial reduction of the prosthetic knee is performed. Overall limb alignment, soft tissue and ligamentous balance and prosthetic interactions are assessed. Further refinement of the soft tissue balance, the bone resections for alignment and the prosthetic implant interaction are performed as indicated to optimize the prosthetic longevity. The polyethylene insert into place onto the tibial prosthesis. Knee stability, range of motion and alignment are again confirmed. Having completed all of the preparations, the tourniquet is released, hemostasis obtained, a deep drain placed, and the wound closed in layers.

Description of Post-Service Work: Hospital - through discharge from recovery room: Apply sterile dressings and extension splint or continuous Passive Motion apparatus (CPM). Assist in transfer of patient from operating table to gurney. Monitor transport of patient from operating room to recovery room. Monitor patient stabilization in the recovery room, with a careful neurologic examination of the extremity. Discuss postoperative recovery care with anesthesia and nursing staff including need for patient controlled analgesia. Discuss procedure and outcome with family in waiting area. Write brief operative note or complete final operative note and place in chart. Write postoperative note in the recovery room. Dictate operative report and copy referring physician(s). Call referring physician(s). Write orders for transferring to orthopaedic floor and discuss ongoing care with floor nurses.

Hospital visits: Review interval chart notes. Discuss ongoing care with floor nurses. Continue prophylaxis for DVT; monitor daily for adequacy. Assess need for continued antibiotics, order as required. Monitor and document patient progress. Assess pain scores and adequacy of analgesia. Examine patient, assess neurologic status, check wounds, change dressings, and remove drain, when appropriate. Order and monitor physiotherapy and assess range of motion progress. Assess opposite extremity for comparison. Write orders for progression to active exercise. Review nursing/other staff patient chart notes. Write orders for films, as necessary. Chart patient progress notes. Answer patient and family questions. Answer nursing/other staff questions.

Hospital Discharge Management: Review interval chart notes. Examine patient, assess neurologic status, check wounds, and change dressings. Write orders for discharge to an inpatient rehabilitation facility, a skilled nursing facility, or home. Write orders for follow-up, post-discharge labs, x-rays, home health care, and physical therapy. Write prescriptions for medications needed post-discharge. Restrictions and activity levels are discussed with the patient, family members and discharging nurse. All appropriate medical records are completed, including day of discharge progress notes, discharge summary and discharge instructions, and insurance forms.

Post-op Office Visits: Review interval chart notes. Review anticoagulation laboratory values and adjust medication as needed. Examine and talk with patient. Assess surgical wound. Remove staples and sutures, when appropriate. Assess neurovascular status, ROM, circulation, sensation, and motor function of the operated extremity. Assess opposite extremity for comparison. Review activity and restrictions. Order occupational therapy. Supervise rehabilitation. Order radiographs, as necessary. Discuss progress with PCP (verbal and written). Assess pain scores and adequacy of analgesia. Dictate progress notes for medical chart.

SURVEY DATA

RUC Meeting Date (mm/yyyy)		01/2013			
Presenter(s):	William Creevy, MD; John Heiner, MD; David Halsey, MD; Mark Froimson, MD; Frank Voss, MD				
Specialty(s):	orthopaedic surgery				
CPT Code:	27447				
Sample Size:	700	Resp N:	157	Response: 22.4 %	
Description of Sample:	random selection from membership roster				
		Low	25th pctl	Median*	75th pctl
Service Performance Rate		0.00	50.00	90.00	150.00
Survey RVW:		14.00	22.13	24.00	26.00
Pre-Service Evaluation Time:				45.00	
Pre-Service Positioning Time:				15.00	
Pre-Service Scrub, Dress, Wait Time:				20.00	
Intra-Service Time:		60.00	90.00	100.00	120.00
Immediate Post Service-Time:	25.00				
Post Operative Visits	Total Min**	CPT Code and Number of Visits			
Critical Care time/visit(s):	0.00	99291x 0.00	99292x 0.00		
Other Hospital time/visit(s):	80.00	99231x 2.00	99232x 1.00	99233x 0.00	
Discharge Day Mgmt:	38.00	99238x 1.00	99239x 0.00	99217x 0.00	
Office time/visit(s):	62.00	99211x 0.00	12x 1.00	13x 2.00	14x 0.00
Prolonged Services:	0.00	99354x 0.00	55x 0.00	56x 0.00	57x 0.00
Sub Obs Care:	0.00	99224x 0.00	99225x 0.00	99226x 0.00	

**Physician standard total minutes per E/M visit: 99291 (70); 99292 (30); 99231 (20); 99232 (40); 99233 (55); 99238(38); 99239 (55); 99217 (38); 99211 (7); 99212 (16); 99213 (23); 99214 (40); 99215 (55); 99224 (20); 99225 (40); 99226 (55); 99354 (60); 99355 (30); 99356 (60); 99357 (30)

Specialty Society Recommended Data

Please, pick the pre-service time package that best corresponds to the data which was collected in the survey process:

4 - FAC Difficult Patient/Difficult Procedure

CPT Code:	27447	Recommended Physician Work RVU: 19.60		
		Specialty Recommended Pre-Service Time	Specialty Recommended Pre Time Package	Adjustments/Recommended Pre-Service Time
Pre-Service Evaluation Time:		40.00	40.00	0.00
Pre-Service Positioning Time:		15.00	3.00	12.00
Pre-Service Scrub, Dress, Wait Time:		20.00	20.00	0.00
Intra-Service Time:		100.00		
Immediate Post Service-Time:	25.00			
Post Operative Visits	Total Min**	CPT Code and Number of Visits		
Critical Care time/visit(s):	0.00	99291x 0.00	99292x 0.00	
Other Hospital time/visit(s):	80.00	99231x 2.00	99232x 1.00	99233x 0.00
Discharge Day Mgmt:	38.00	99238x 1.0	99239x 0.0	99217x 0.00
Office time/visit(s):	62.00	99211x 0.00	12x 1.00	13x 2.00
Prolonged Services:	0.00	99354x 0.00	55x 0.00	56x 0.00
Sub Obs Care:	0.00	99224x 0.00	99225x 0.00	99226x 0.00

Modifier -51 Exempt Status

Is the recommended value for the new/revised procedure based on its modifier -51 exempt status? No

New Technology/Service:

Is this new/revised procedure considered to be a new technology or service? No

KEY REFERENCE SERVICE:

<u>Key CPT Code</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>
23472	090	22.13	RUC Time

CPT Descriptor Arthroplasty, glenohumeral joint; total shoulder (glenoid and proximal humeral replacement (eg, total shoulder))

KEY MPC COMPARISON CODES:

Compare the surveyed code to codes on the RUC's MPC List. Reference codes from the MPC list should be chosen, if appropriate that have relative values higher and lower than the requested relative values for the code under review.

<u>MPC CPT Code 1</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>	<u>Most Recent Medicare Utilization</u>
37215	090	19.68	RUC Time	8,472

CPT Descriptor 1 Transcatheter placement of intravascular stent(s), cervical carotid artery, percutaneous; with distal embolic protection

<u>MPC CPT Code 2</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>	<u>Most Recent Medicare Utilization</u>
33533	090	33.75	RUC Time	69,419

CPT Descriptor 2 Coronary artery bypass, using arterial graft(s); single arterial graft

<u>Other Reference CPT Code</u>	<u>Global</u>	<u>Work RVU</u>	<u>Time Source</u>
63075	090	19.60	RUC Time

CPT Descriptor Discectomy, anterior, with decompression of spinal cord and/or nerve root(s), including osteophyctectomy; cervical, single interspace

RELATIONSHIP OF CODE BEING REVIEWED TO KEY REFERENCE SERVICE(S):Compare the pre-, intra-, and post-service time (by the median) and the intensity factors (by the mean) of the service you are rating to the key reference services listed above. **Make certain that you are including existing time data (RUC if available, Harvard if no RUC time available) for the reference code listed below.**

Number of respondents who choose Key Reference Code: 80 % of respondents: 50.9 %

TIME ESTIMATES (Median)

	<u>CPT Code:</u> 27447	<u>Key Reference CPT Code:</u> 23472	<u>Source of Time</u> RUC Time
Median Pre-Service Time	75.00	75.00	
Median Intra-Service Time	100.00	140.00	
Median Immediate Post-service Time	25.00	30.00	
Median Critical Care Time	0.0	0.00	
Median Other Hospital Visit Time	80.0	80.00	
Median Discharge Day Management Time	38.0	38.00	
Median Office Visit Time	62.0	85.00	
Prolonged Services Time	0.0	0.00	

Median Subsequent Observation Care Time	0.0	0.00
Median Total Time	380.00	448.00
Other time if appropriate		

INTENSITY/COMPLEXITY MEASURES (Mean)**(of those that selected Key Reference code)****Mental Effort and Judgment (Mean)**

The number of possible diagnosis and/or the number of management options that must be considered	3.59	3.41
The amount and/or complexity of medical records, diagnostic tests, and/or other information that must be reviewed and analyzed	3.68	3.54
Urgency of medical decision making	2.68	2.57

Technical Skill/Physical Effort (Mean)

Technical skill required	4.41	4.23
Physical effort required	4.28	3.90

Psychological Stress (Mean)

The risk of significant complications, morbidity and/or mortality	4.33	3.96
Outcome depends on the skill and judgment of physician	4.60	4.34
Estimated risk of malpractice suit with poor outcome	4.10	3.88

INTENSITY/COMPLEXITY MEASURES**CPT Code****Reference Service 1****Time Segments (Mean)**

Pre-Service intensity/complexity	3.75	3.65
Intra-Service intensity/complexity	4.31	4.09
Post-Service intensity/complexity	3.59	3.35

Additional Rationale and Comments

Describe the process by which your specialty society reached your final recommendation. *If your society has used an IWP/UT analysis, please refer to the Instructions for Specialty Societies Developing Work Relative Value Recommendations for the appropriate formula and format.*

Code 27447 was identified on the CMS high PFS expenditure list, requiring review by the RUC. The American Academy of Orthopaedic Surgeons and the American Association of Hip and Knee Surgeons conducted a RUC survey and collected 157 responses.

Pre-time Package 4 was selected with the addition of 12 minutes (15 min total) for positioning the patient's leg on the table with proper bolstering to aid surgical exposure, positioning equipment for intraoperative imaging, and application of a tourniquet. This time is consistent with other knee procedures reviewed by the RUC (eg, 27556-27558) and consistent with the survey median positioning time.

The median intra-service time of 100 minutes is less than the current RUC database intra-service time of 124 which is based on 2005 NSQIP data. The 2005 survey median intra-service time was 95 minutes; slightly less than the current survey data. NSQIP is not currently a valid extant database; therefore we cannot provide updated information from NSQIP to show that the NSQIP times would be similar to what was shown in 2005. However, we believe the fact that our current survey is consistent with the 2005 survey shows that the intra-work has not materially changed.

The survey median work RVU supports a value greater than the current wRVU. However, we do not believe there is compelling evidence to recommend an increase in wRVUs.

We recommend the survey 25th percentile RVW of 22.13, which is less than the current wRVU of 23.25. This is slightly greater than MPC code 37215, which has 3 minutes more intra-time, but two less hospital visits and one less office visit. It is also the same RVW as the key reference service, 23472, which we believe is appropriate. Our survey respondents indicated the complexity of the surveyed code is considerably greater than 23472 and therefore, a value equal to 23472, with a correspondingly higher IWP/UT is appropriate.

Rank Order with Other RUC Reviewed Hip/Knee Codes

The consensus panel believes the recommended RVW for 27447 of 22.13, combined with the recommended RVW for 27446, Uni Knee Arthroplasty, of 17.48 creates appropriate rank order between these procedures. The current values for 27446 and 27447 are slightly out of rank order and by slightly increasing the RVW for 27446 and slightly decreasing the RVW for 27447, both the difference in time and in complexity/intensity is correct.

CPT	RVW	Total Time	pre	intra	sd-post	99232	99231	99238	99213	99212
27446	17.48	345	75	90	20	1	1	1	2	1
27447	22.13	380	75	100	25	1	2	1	2	1

The current values for 27130 and 27447 are slightly out of rank order and by decreasing the RVW for 27447 and maintaining the current RVW of 27130, the difference in complexity/intensity correctly reflects the fact that Total Knee Arthroplasty is a more technically intense procedure where more time is spent in the insertion and fitting of the prosthesis than is the case of Total Hip Arthroplasty where more time is spent exposing the joint and in closing.

CPT	RVW	Total Time	pre	intra	sd-post	99232	99231	99238	99213	99212
27130	21.90	380	75	100	25	1	2	1	2	1
27447	22.13	380	75	100	25	1	2	1	2	1

Medicare Utilization

Code 27447 was identified on the CMS high PFS expenditure list, requiring review by the RUC. The AAOS and AAHKS reviewed the Medicare utilization for 27447 to determine if there were any significant recent increases in Medicare volume which might suggest misvaluation as the Relativity Assessment Workgroup has focused on in recent reviews of existing procedure values. We note the following Medicare volumes:

2007: 263,210
 2008: 259,457
 2009: 256,319
 2010: 260,953
 2011: 270,072

Estimate the number of times this service might be **provided to Medicare patients** nationally in a one-year period?
 261,381 If this is a recommendation from multiple specialties please estimate frequency and percentage for each specialty.
 Please explain the rationale for this estimate. RUC database

Specialty orthopaedic surgery	Frequency 260000	Percentage 99.47 %
Specialty	Frequency	Percentage %
Specialty	Frequency	Percentage %

Do many physicians perform this service across the United States? Yes

Professional Liability Insurance Information (PLI)

If the surveyed code is an existing code and the specialty believes the specialty utilization mix will not change, enter the surveyed existing CPT code number 27447

If this code is a new/revised code or an existing code in which the specialty utilization mix will change, please select another crosswalk based on a similar specialty mix.

ISSUE: Arthroplasty

CPT	DESC	Resp	IWPUT	RVW					TOT Time	PRE			INTRA			FAC-inpt/same day					OFFICE				
				MIN	25th	MED	75th	MAX		EVAL	POSIT	SDW	MIN	25th	MED	75th	MAX	P-SD	33	32	31	38	39	15	14

UNI-KNEE

REF	23472	Arthroplasty, glenohumeral joint; total s	55	0.089		22.13		448	40	15	20		140		30	1	2.0	1.0		3	1			
HVD	27446	Arthroplasty, knee, condyle and platea		0.091		16.38		342	23	8	25		105		19		3	1.0			4			
SVY	27446	Arthroplasty, knee, condyle and platea	138	0.158	13.00	20.00	22.00	23.00	45.00	350	45	15	20	60	75	90	105	150	20	1	1	1.0	2	1
REC				0.109		17.48		345	40	15	20		90		20	1	1	1.0		2	1			

TOTAL KNEE

REF	23472	Arthroplasty, glenohumeral joint; total s	80	0.089		22.13		448	40	15	20		140		30	1	2.0	1.0		3	1			
RUC-05	27447	Arthroplasty, knee, condyle and platea		0.099		23.25		469	45	15	15		124		30	1	3	1.0		1	2	1		
SVY	27447	Arthroplasty, knee, condyle and platea	157	0.153	14.00	22.13	24.00	26.00	52.00	385	45	15	20	60	90	100	120	180	25	1	2	1.0	2	1
REC				0.110		19.60		380	40	15	20		100		25	1	2	1.0		2	1			

TOTAL HIP

REF	23472	Arthroplasty, glenohumeral joint; total s	88	0.089		22.13		448	40	15	20		140		30	1	2.0	1.0		3	1			
RUC-05	27130	Arthroplasty, acetabular and proximal f		0.081		21.79		478	60	15	15		135		30	1	3	1.0		3	1			
SVY	27130	Arthroplasty, acetabular and proximal f	150	0.153	14.16	23.00	24.00	26.00	48.00	385	45	15	20	60	90	100	120	180	25	1	2	1.0	2	1
REC				0.110		19.60		380	40	15	20		100		25	1	2	1.0		2	1			

6,7, 20, 24____
Tab Number

Shoulder Prosthesis Removal, Elbow Prosthesis Removal, Arthroplasty, Laminectomy____
Issue

233X1-233X3, 24160 and 24164, 27446 27447 and 27130, 63047-63048____
Code Range

Attestation Statement

This form needs to be completed by any **RUC Advisor** whose specialty society is developing a recommendation to be reviewed by the RUC.

As a RUC Advisor, I attest that the integrity of the RUC survey, summary of recommendation forms and practice expense recommendations are based on accurate and complete data to the best of my knowledge. As a RUC advisor, I acknowledge that violations would be addressed by the executive committee (i.e., RUC Chair , AMA Representative and Alternate AMA Representative.)



Signature

William Creevy, MD
Printed Signature

AAOS
Specialty Society

1-8-13
Date

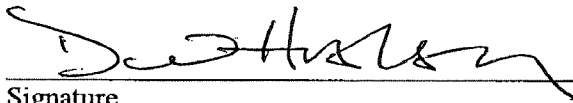
20
Tab Number

Arthroplasty
Issue
27130, 27446, 27447
Code Range

Attestation Statement

This form needs to be completed by any **RUC Advisor** whose specialty society is developing a recommendation to be reviewed by the RUC.

As a RUC Advisor, I attest that the integrity of the RUC survey, summary of recommendation forms and practice expense recommendations are based on accurate and complete data to the best of my knowledge. As a RUC advisor, I acknowledge that violations would be addressed by the executive committee (i.e., RUC Chair , AMA Representative and Alternate AMA Representative.)


Signature

David A. Harsany
Printed Signature

AAHK S.
Specialty Society

1/9/2013
Date

**AMA/Specialty Society Update Process
Practice Expense Summary of Recommendation
Facility Direct Inputs**

CPT Long Descriptor:

- 27130** Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft
- 27446** Arthroplasty, knee, condyle and plateau; medial OR lateral compartment
- 27447** Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)

Global Period 90

Meeting Date January 2013

1. Please provide a brief description of the process used to develop your recommendation and the composition of your Specialty Society Practice Expense Committee: Orthopaedic surgeons familiar with the procedures reviewed current PE inputs and modified based on change to number of post-op office visits.

2. You must provide reference code(s) for comparison on your spreadsheet. If the code you are making recommendations on is a revised code you must use the current PE direct inputs for the code as your comparison. You must provide an explanation for the selection of reference codes. Reference Code Rationale:

- The only change from current PE inputs is an adjustment for change in number of post-op visits.

3. If you are recommending more minutes than the PE Subcommittee standards you must provide evidence to justify the time: N/A

4. Please describe in detail the clinical activities of your staff:

Pre-Service Clinical Labor Activities:

Complete pre-service diagnostic & referral forms
Coordinate pre-surgery services
Schedule space and equipment in facility
Provide pre-service education/obtain consent
Follow-up phone calls & prescriptions

Intra-Service Clinical Labor Activities:

Phone calls to family, caregiver, pharmacy, therapist, and/or home care related to discharge management and instructions

Post-Service Clinical Labor Activities:

Assist physician at post-op office visits

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
				Survey Code		Reference Code		Survey Code		Reference Code		Survey Code		Reference Code	
2															
3				27446		27446 PEAC 2002		27447		27447 PEAC 2002		27130		27130 PEAC 2002	
4	Meeting Date: January 2013 Tab: 20 Specialty: Orthopaedic Surgery			Arthroplasty, knee, condyle and plateau; medial OR lateral compartment		Arthroplasty, knee, condyle and plateau; medial OR lateral compartment		Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)		Arthroplasty, knee, condyle and plateau; medial AND lateral compartments with or without patella resurfacing (total knee arthroplasty)		Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft		Arthroplasty, acetabular and proximal femoral prosthetic replacement (total hip arthroplasty), with or without autograft or allograft	
		CMS Code	Staff Type												
5	LOCATION			Non Fac	Facility	Non Fac	Facility	Non Fac	Facility	Non Fac	Facility	Non Fac	Facility	Non Fac	Facility
6	GLOBAL PERIOD			90	90	90	90	90	90	90	90	90	90	90	90
7	TOTAL CLINICAL LABOR TIME	L037D	RN/LPN/MTA	n/a	171	n/a	180	n/a	180	n/a	224	n/a	180	n/a	207
8	TOTAL PRE-SERV CLINICAL LABOR TIME	L037D	RN/LPN/MTA	n/a	60	n/a	60	n/a	60	n/a	60	n/a	60	n/a	60
9	TOTAL SERVICE PERIOD CLINICAL LABOR TIME	L037D	RN/LPN/MTA	n/a	12	n/a	12	n/a	12	n/a	12	n/a	12	n/a	12
10	TOTAL POST-SERV CLINICAL LABOR TIME	L037D	RN/LPN/MTA	n/a	99	n/a	108	n/a	108	n/a	152	n/a	108	n/a	135
11	PRE-SERVICE														
12	Start: Following visit when decision for surgery or procedure made														
13	Complete pre-service diagnostic & referral forms	L037D	RN/LPN/MTA		5		5		5		5		5		5
14	Coordinate pre-surgery services	L037D	RN/LPN/MTA		20		20		20		20		20		20
15	Schedule space and equipment in facility	L037D	RN/LPN/MTA		8		8		8		8		8		8
16	Provide pre-service education/obtain consent	L037D	RN/LPN/MTA		20		20		20		20		20		20
17	Follow-up phone calls & prescriptions	L037D	RN/LPN/MTA		7		7		7		7		7		7
19	End: When patient enters office/facility for surgery/procedure														
20	SERVICE PERIOD														
41	Dischrg mgmt (1.0 x 99238) (enter 12 min)	L037D	RN/LPN/MTA	n/a	12	n/a	12	n/a	12	n/a	12	n/a	12	n/a	12
44	POST-SERVICE Period														
45	Start: Patient leaves office/facility														
46	Conduct phone calls/call in prescriptions														
47	Office visits: List Number and Level of Office Visits			# visits	# visits	# visits	# visits	# visits	# visits	# visits	# visits	# visits	# visits	# visits	# visits
48	99211	16 minutes	16												
49	99212	27 minutes	27		1		4		0		1		0		1
50	99213	36 minutes	36		2				3		2		3		3
51	99214	53 minutes	53								1				
52	99215	63 minutes	63												
53	Total Office Visit Time	L037D	RN/LPN/MTA	0	99	0	108	0	108	0	152	0	108	0	135
54	Other Clinical Activity - specify:														
55	End: with last office visit before end of global period														
56	MEDICAL SUPPLIES			CODE	UNIT										
57	pack, minimum multi-specialty visit	SA048	pack		3		4		3		4		3		4
58	pack, post-op incision care (staple)	SA052	pack		1		1		1		1		1		1
63	EQUIPMENT			CODE											
64	table, power	EF031			99		63		108		152		108		135