National Medical Policy

Subject: Unicompartmental Knee Arthroplasty

Policy Number: NMP352

Effective Date*: August 2007

Updated: August 2015

This National Medical Policy is subject to the terms in the IMPORTANT NOTICE at the end of this document

For Medicaid Plans: Please refer to the appropriate Medicaid Manuals for coverage guidelines prior to applying Health Net Medical Policies

The Centers for Medicare & Medicaid Services (CMS)
For Medicare Advantage members please refer to the following for coverage guidelines first:

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Instructions
- Medicare NCDs and National Coverage Manuals apply to ALL Medicare members in ALL regions.
- Medicare LCDs and Articles apply to members in specific regions. To access your specific region, select the link provided under “Reference/Website” and follow the search instructions. Enter the topic and your specific state to find the coverage determinations for your region. *Note: Health Net must follow local coverage determinations (LCDs) of Medicare Administration Contractors (MACs) located outside their service area when those MACs have exclusive coverage of an item or service. (CMS Manual Chapter 4 Section 90.2)
- If more than one source is checked, you need to access all sources as, on occasion, an LCD or article contains additional coverage information than contained in the NCD or National Coverage Manual.
• If there is no NCD, National Coverage Manual or region specific LCD/Article, follow the Health Net Hierarchy of Medical Resources for guidance.

Current Policy Statement
Health Net, Inc. considers unicompartmental knee arthroplasty (UKA) using FDA approved devices, medically necessary in patients with all of the following:

1. Osteoarthritis limited to a single compartment of the knee (i.e. medial or lateral)

2. Persistent pain with limited range of motion interfering with activities of daily living, unresponsive to conservative treatment (e.g., analgesic or nonsteroidal anti-inflammatory medications (NSAIDs), activity modification including weight reduction, therapeutic exercise, modified footwear, orthoses, bracing, ambulatory assistive devices, intra-articular steroids and/or viscosupplementation.)


Contraindications
Contraindications to unicompartmental knee arthroplasty include any of the following:

1. Inflammatory arthritis
2. Less than 90 degrees of flexion
3. Greater than 15 degree flexion contracture
4. Morbid obesity (BMI > 40)
5. Absent anterior cruciate ligament (ACL)
6. Patient with a large deformity not amenable to correction with current unicompartmental designs
7. Active infection of the joint.

Codes Related To This Policy
NOTE: The codes listed in this policy are for reference purposes only. Listing of a code in this policy does not imply that the service described by this code is a covered or non-covered health service. Coverage is determined by the benefit documents and medical necessity criteria. This list of codes may not be all inclusive.

On October 1, 2015, the ICD-9 code sets used to report medical diagnoses and inpatient procedures will be replaced by ICD-10 code sets. Health Net National Medical Policies will now include the preliminary ICD-10 codes in preparation for this transition. Please note that these may not be the final versions of the codes and that will not be accepted for billing or payment purposes until the October 1, 2015 implementation date.

ICD-9 Codes
Kim et al (2015) investigated the long-term clinical results and survival rate of minimally invasive unicompartmental knee arthroplasty (UKA) by collecting cases that had been implanted more than 10 years ago. One hundred and twenty-eight patients (166 cases) who underwent Oxford phase 3 medial UKA using the minimally invasive surgery from January 2002 to December 2002 were selected. The mean age of the patients at the time of surgery was 61 years, and the duration of the follow-up was minimum 10 years. Clinical and radiographic assessments were performed using the Knee Society clinical rating system, and the survival analysis was done by the Kaplan-Meier method with 95% confidence interval (CI). The mean Knee Society knee and function scores improved significantly from 53.8 points (range, 25 to 70
points) and 56.1 points (range, 35 to 80 points) preoperatively to 85.4 points (range, 58 to 100 points) and 80.5 points (range, 50 to 100 points) at 10-year follow-up, respectively (p < 0.001). Failures following the UKA occurred in 16 cases (9.6%), and the mean time of the occurrence of the failure was 6.2 years after the surgery. The 10-year survival rate was 90.5% (95% CI, 85.9 to 95.0) when failure was defined as all the reoperations, whereas the 10-year survival rate was 93.4% (95% CI, 89.6 to 97.1) when the cases in which only revision total knee arthroplasty was defined as failure. The results of this study show outstanding functions of the knee joint and satisfactory 10-year survival rate after minimally invasive UKA.

Therefore, minimally invasive UKA could be a useful method in the treatment of osteoarthritis in one compartment of knee joint.

The U.S. FDA has issued a 510(k) Premarket Notification on the 'Unicompartmental Knee Resurfacing Prosthesis (UniCapTM)' that was effective on October 11, 2005 with number K050393. Per the FDA, 'This prosthesis is indicated for use as a partial replacement of the articulating surfaces of the knee when only one side of the joint is affected due to the compartmental primary degenerative or post-traumatic degenerative disease, previous tibial condyle or plateau fractures, deformity or revision of previous arthroplasty. This device is intended to be used with bone cement. The FDA notes that the Arthrosurface Unicompartmental Knee Resurfacing Prosthesis (UniCapTM) has been compared with the following legally marketed devices to which the sponsor claims substantial equivalence:

- Miller/Galante Precoat Unicompartmental Knee System (Zimmer, Inc.) (K880155)
- Link Endo-Model TM Sled Uni-Knee System, (Link America, Inc). (K954186)
- EUIS Unicompartmental Knee System (Howmedica Osteonics) (K033769)
- Stelkast Unicondylar Knee System (Stelkast Co.) (K032824)

**Scientific Rationale – Update August 2014**

Kristensen et al (2013) reported partial knee arthroplasty (PKA) has shown obvious advantages compared to total knee arthroplasty, but survival of PKA from different institutions and registries has differed. In a single institution, 695 consecutive Oxford medial PKAs were performed from 2002 to 2011 with mean follow-up of 4.6 years. The overall 10.7-year survival rate was 85.3% (95% CI: 78.7%-90.0%), and no difference in survival for gender and age younger or older than 60 years was found. One year after PKA, 94.3% were very satisfied or satisfied, as were 93.6% six years postoperatively. The revision rate was 7.3% (n=51), and the most common causes for revision were progression of osteoarthritis (n=16), aseptic loosening (n=11), and pain without loosening (n=10). Only 50% of patients revised for pain without loosening had a satisfactory outcome.

Smith et al (2014) reported Isolated unicompartmental knee arthritis is less common laterally than medially. Lateral unicompartimental knee arthroplasty (UKA) constitutes only 1% of all knee arthroplasty performed. Use of medial UKA is supported by several published series showing good long-term survivorship and patient satisfaction, in large patient cohorts. Results of lateral UKA however have been mixed. The authors presented the short and mid-term survivorship and 5-year clinical outcome of 101 lateral UKAs using a single prosthesis. Over a 9 year period, 100 patients who satisfied inclusion criteria underwent a lateral fixed-bearing unicompartmental arthroplasty. American Knee Society (AKSS), Oxford Knee (OKS) and modified Western Ontario McMaster Universities Arthritis Index (WOMAC) scores were completed preoperatively and at 1, 2 and 5 years postoperatively. Kaplan-Meier survival analysis was used to determine the 2-year and 5-year survivorship, using
revision for any cause as end point. Survivorship was 98.7% and 95.5% at 2 and 5 years respectively. 1 knee was revised for subsidence of the tibial component and 1 knee for progression of medial compartment osteoarthritis. Of a possible 35 knees in situ at 5 year follow-up, 33 knees were fully scored. Median AKSS, OKS and modified WOMAC scores were 182, 41, and 16 respectively. The authors concluded the midterm survivorship and outcome scores at 5-years suggest that lateral unicompartmental knee arthroplasty provides a valuable alternative to total joint replacement in selected patients with isolated lateral tibio-femoral arthritis at midterm follow-up.

Bolognesi et al (2013) assessed trends in the use of unicompartmental and total knee arthroplasty, associated durations of hospital stay, and postoperative outcomes from a nationally representative 5% sample of Medicare beneficiaries who were sixty-five years of age or older and who had undergone either unilateral unicompartmental knee arthroplasty or unilateral total knee arthroplasty from 2000 to 2009. The outcome measures were the rates of implant revision or removal within five years and the rates of periprosthetic infection, thromboembolic events, myocardial infarction, and all-cause mortality within one year. We conducted Kaplan-Meier analyses to assess the cumulative incidence of unadjusted outcomes and used Cox proportional-hazards regression to understand the relative risks of the outcomes for each procedure. A total of 68,603 patients underwent unilateral total knee arthroplasty (n = 65,505) or unilateral unicompartmental knee arthroplasty (n = 3098) from 2000 to 2009. The mean age was seventy-five years; 34% of the patients were men, and 92% were white. The procedure rate was twenty-one times higher for total knee arthroplasty (597 per 100,000 person-years) than unicompartmental knee arthroplasty (twenty-nine per 100,000 person-years). The use of total knee arthroplasty increased 1.7-fold, and the use of unicompartmental knee arthroplasty increased 6.2-fold. The mean length of stay (and standard deviation [SD]) was 3.9 ± 2.1 days for total knee arthroplasty and 2.4 ± 1.7 days for unicompartmental knee arthroplasty. The five-year revision rate was 3.7% for total knee arthroplasty and 8.0% for unicompartmental knee arthroplasty. After multivariable adjustment, the risk of revision remained 2.4 times higher for unicompartmental knee arthroplasty than for total knee arthroplasty (95% confidence interval [CI] = 2.03 to 2.83). After multivariable adjustment, patients who underwent unicompartmental knee arthroplasty had no significant differential one-year risk of infection (adjusted hazard ratio [HR] = 0.74; 95% CI = 0.55 to 1.01), thromboembolic events (adjusted HR =0.86; 95% CI = 0.57 to 1.29), or mortality (adjusted HR = 0.75; 95% CI = 0.50 to 1.11). The authors concluded although unicompartmental knee arthroplasty accounted for only 4.5% of the unilateral knee replacements among Medicare beneficiaries, the use of this procedure has increased dramatically. Compared with those who had total knee arthroplasty, patients who underwent unicompartmental knee arthroplasty had higher revision rates but shorter durations of stay and tended to have lower rates of perioperative complications. The authors noted these findings need to be confirmed by studies that incorporate detailed clinical information.

Scientific Rationale – Update August 2013
Uzun et al (2013) evaluated clinical and functional results for a series of patients undergoing unicompartmental knee arthroplasty (UKA) at mid-term follow-up. The study included 32 patients with isolated medial compartment arthritis who underwent unilateral UKA. Outcomes were assessed using pre- and postoperative
Western Ontario McMaster Universities Osteoarthritis Index (WOMAC) scores and Knee Society Score (KSS) metrics. On physical examination at a follow-up of at least 5 years, mean knee flexion was 121°, mean knee extension was 2°, and mean varus angulation was 2°. At post-operative evaluation, the mean WOMAC score was 96.12 and the mean KSS score was 93. Pre- and postoperative WOMAC and KSS scores were evaluated by paired Student's t-tests; p < 0.001 determined a highly significant difference. Investigators concluded the clinical and functional results of UKA at 5-year follow-up were shown to be satisfactory. Longer follow-up is needed to determine whether UKA provides satisfactory long-term outcomes.

Biswis et al (2013) evaluated eighty-five fixed bearing medial unicompartmental arthroplasties performed in 42 men and 33 women with a mean age of 49 years (range, thirty-three to fifty-five years old) at the time of surgery. At a mean of 4.0 years (range two to twelve years), the mean pre-operative Knee Society score improved from 49 to 95.1 points (P<0.0001) and the mean UCLA activity score was 7.5 (range 5 to 9). Three knees underwent revision to a total knee arthroplasty; two for arthritic progression in the lateral compartment and one for pain. At the time of final follow-up, two knees (2.4%) demonstrated progressive Grade 4 arthritis of the patellofemoral compartment but were asymptomatic. There was no radiographic evidence of loosening, osteolysis, or premature polyethylene wear. Estimated survivorship was 96.5% at 10 years. Investigators concluded UKA offered excellent early outcomes in this cohort of younger, active patients.

Xu et al (2013) studied the differences in clinical outcomes of double knee osteoarthritis patients undergoing UKA and total knee arthroplasty (TKA). 30 patients (60 knees) with isolated compartmental osteoarthritis of knees were enrolled. Each patient accepted UKA on one knee, TKA on the other. There were 9 male and 21 female patients, aged from 60 to 79 years, average 69 years. Patients evaluation focused on the hospital for special surgery (HSS) knee score, blood loss, hemoglobin 48 h after the operation, the time of knee being able to flex to 90° and patients’ sensation after operation. Collection the UKA side and TKA side data and compare two groups of data. All patients were followed up for 13 to 35 months, average 20.5 months. There were no component loosening and revision. HSS knee score improved significantly in both two groups: UKA group was promoted from 61 ± 3 to 87 ± 3 (t = 11.21, P < 0.001) and TKA group from 59 ± 5 to 86 ± 3 (t = 17.64, P < 0.001). Compared with the TKA group, the UKA group had less blood loss (t = 11.56, P < 0.001), and a decrease of hemoglobin 48 h after the operation (t = 12.38, P < 0.001). The dates of knees being able to flex ≥ 90° after operation were less (t = 4.03, P < 0.05) in the UKA group. As to therapeutic effects, 70% patients found that UKA was better than TKA; 16.7% patients had opposite opinion; and 13.3% patients found no differences between their two knees. Investigators concluded UKA for the treatment of isolated compartmental osteoarthritis of knee shows as well as TKA, and it has less trauma, less blood loss, more rapid postoperative recovery than TKA.

Foran et al (2013) reported a 10-year, 98% survival rate in series of 51 patients with 62 cemented, fixed-bearing unicompartmental knee arthroplasties, with an average knee score of 92 points. They noted the survivorship and modes of failure past 10 years are incompletely understood. At 15-year followup the authors sought to determine the overall durability and survivorship of this design; modes of failure; and the progression of arthritis in the nonresurfaced compartments. Nineteen knees in 16 patients were available for study with 34 patients lost to death and one lost to followup. At 15 years, they analyzed the Kaplan-Meier survivorship as well as durability with regard to radiographic loosening and knee scores, determined modes
of failure, and assessed radiographs for degeneration in the nonresurfaced compartments. Fifteen-year survivorship was 93% and 20-year survivorship was 90%. Four of 62 knees were revised to total knee arthroplasty at a mean of 144 months. One knee was revised for patellofemoral and lateral compartment degeneration, one for lateral compartment degeneration, one for polyethylene disengagement and metallosis, and one for pain of unclear etiology. No patients had aseptic loosening or osteolysis. The mean knee score was 78 at latest followup. Arthritic progression in the nonresurfaced compartments was common although symptomatic in only two patients. Investigators concluded with this cemented, fixed-bearing design, the failure rates were low, there were no cases of failure secondary to wear or loosening, and the survivorship was similar to that reported for total knee arthroplasty.

**Scientific Rationale – Update December 2010**

Price and Svard (2010) reported the 20-year survivorship for the Oxford mobile bearing medial unicompartmental knee arthroplasty; as well as reasons and time to revision in 543 patients who underwent 682 medial Oxford meniscal bearing unicompartmental knee arthroplasties. The mean age at implantation was 69.7 years (range, 48-94 years). The median follow-up was 5.9 years (range, 0.5 to 22 years). One hundred and forty-one patients (172 knees) died. None were lost to followup. The primary outcome was 20-year survival, a key variable in assessing the longevity of arthroplasty. The 16-year all cause revision cumulative survival rate was 91.0% (CI 6.4, 71 at risk) and survival was maintained to 20 years (91.0%, CI 36.2, 14 at risk). There had been 29 revision procedures: 10 for lateral arthrosis, nine for component loosening, five for infection, two bearing dislocations, and three for unexplained pain. In addition, five patients had undergone bearing exchange, four for dislocation and one for bearing fracture. The mean time to revision was 3.3 years (range, 0.3-8.9 years). The reviewers concluded mobile bearing unicompartmental knee arthroplasty is durable during the second decade after implantation.

Lisowski et al (2010) prospectively evaluated the outcome of unicompartmental knee arthroplasty (UKA) in patients with medial osteoarthritis of the knee in a high-volume unit. Two-hundred and forty-four UKAs were performed with a minimally invasive approach. The median age was 72 (43-91) years. The median follow-up was 4.2 years (range 1-10.4 years). Fourteen patients died, and nine were considered to be lost to follow-up, but all had a well-functioning prosthesis in situ until their last follow-up. Pain, function and health-related quality of life were evaluated pre- and postoperatively using patient- and assessor-based outcome scores, as well as radiographic evidence. The mean Knee Society knee and function scores, WOMAC-scores, Oxford-score and VAS pain and satisfaction all improved. Nine knees required revision. Eleven patients required an additional arthroscopic procedure due to persisting pain secondary to intra-articular pathology, and four patients required manipulation under anesthesia because of limited range of motion. The 7-year cumulative survival rate of the arthroplasty was 94.4%. A low incidence (21%) of a radiolucent line beneath the tibial component was observed at 5 years of follow-up. The investigators reported this study showed a high survival rate of the Oxford Phase 3 UKA. Patient satisfaction and functional performance were also very high. Major complication rate was low; in addition, the incidence of radiolucency under the tibial component, when compared to present literature, was low. The investigators concluded when strict indication criteria are followed, excellent, durable, and reliable, results can be expected for this procedure.
Scientific Rationale

Osteoarthritis (OA) is the most common form of arthritis in the United States. Also known as "wear and tear" arthritis, OA usually develops after many years of use and affects people who are middle aged or older. The prevalence and severity of osteoarthritis increase with age. Other risk factors for OA include obesity, injury to a joint and family history of osteoarthritis. This chronic disease causes the cushioning (cartilage) between the bone joints to wear away, leading to pain and stiffness. As the disease gets worse, the cartilage disappears and the bone rubs on bone.

Patients with OA have pain that typically worsens with weight bearing and activity and improves with rest, as well as morning stiffness and gelling of the involved joint, after periods of inactivity. On physical examination, patients often have tenderness on palpation – with/or without inflammation, bony enlargement, crepitus on motion, and/or limitation of joint motion. OA does not affect all joints equally and is most commonly found in the fingers, knee, hip, and spine, and rarely affects the elbow, wrist, and ankle. Although there is no known cure for OA, the goal of treatment is to reduce pain, maintain and/or improve joint mobility, and limit functional impairment.

Treatment for OA includes analgesics such as acetaminophen or nonsteroidal anti-inflammatory medications (NSAIDs), activity modification including weight reduction, therapeutic exercise, modified footwear, orthoses, bracing, or ambulatory assistive devices. If these treatments fail to reduce or eliminate the pain, steroids injections into the joint may be used to decrease inflammation and the associated pain. Viscosupplementation, injection of an artificial joint fluid (e.g. Hyalgan [sodium hyaluronate], Synvisc [Hylan G-F 20], Supartz [highly purified sodium hyaluronate], Orthovisc [high molecular weight form of hyaluronic acid] or Euflexxa [an ultra-high purity hyaluronan]) may also be tried and may relieve pain for up to six months. There is some evidence that these supplements are helpful in controlling pain, although they do not appear to grow new cartilage.

Surgical intervention may be indicated when pain, instability and function have not improved to a satisfactory level despite conservative treatment. Surgical options for OA of the knee include arthroscopic knee debridement, osteotomy and joint replacement. The goal of surgery is to preserve or restore the articular cartilage surfaces. Patients with bi- or tri-compartmental arthritis of the knee who have failed to respond to conservative treatment may be considered for total knee arthroplasty, however, for patients with unicompartmental arthritis surgical options also include tibial osteotomy or unicompartmental arthroplasty (UKA), often referred to as partial knee replacement. Young, active patients that have failed to respond to conservative treatment may be considered for tibial osteotomy while the less active patient may be considered for UKA. Proposed advantages of UKA over total knee replacement (TKR) is providing more physiologic function, better range of movement, quicker recovery and the ability to convert the failed UKA into a TKR, delaying by up to a decade the TKR.

During the 1970s and 1980s, orthopedic surgeons began developing and using UKA for treatment of unicompartmental osteoarthritis (OA) of the knee. Despite initial positive results from many groups, high failure rates increasingly were reported. Due to appropriate patient selection, refined surgical techniques and improved implant design, there has been a resurgence of interest in unicompartmental knee replacement as an alternative to both total knee replacement and osteotomy in the treatment of patients with unicompartmental, non-inflammatory arthritis. During the UKA, the femur and tibia in the medial or lateral compartment are reshaped to facilitate implantation of a prosthetic knee joint in a single compartment.
recommended by the American Academy of Orthopaedic Surgeons (AAOS), unicompartmental arthroplasty may be indicated in patients with unicompartmental arthritis of knee with unicompartmental pain that is unresponsive to conservative treatment. According to the AAOS, unicompartmental arthroplasty has more predictable results in older or less active patients, when the ACL is intact, patient weight does not exceed 180 lbs., no significant inflammation and no damage to the other compartments, calcification of cartilage or dislocation and the degree of preoperative deformity is not severe (< 10 degree varus or <15 degree valgus). Inflammatory arthritis is a contraindication. Other widely accepted contraindications to unicompartmental knee replacement include less than 90 degrees of flexion, greater than 15 degree flexion contracture, or a patient with a large deformity not amenable to correction with current unicompartmental designs.

Skowronski et al. (2005) assessed the long-term outcome of UKA using Oxford II implants and evaluated the inclusion criteria. The authors presented an analysis of long-term outcome in unicompartmental knee arthroplasty in 42 patients, qualified for treatment according to the criteria of Kozin and Scott, and also the designers of the implant. The follow-up assessment was performed a minimum of 10 years after surgery (11.2 years average.) The results were assessed using the 100-point HSS scale. Excellent results were achieved in 10 cases, good results in 22 cases, fair results in 6 cases, and poor results in 4 cases. The implant survival rate was 86%. There were some complications related to surgical error or lack of strict compliance with the qualification criteria. The authors reported UKA late results are comparable to those achieved in TKA, given proper qualification. They also concluded this procedure can be considered as a definitive solution in older patients.

In a comparative study, Amin et al. (2006) evaluated the active range of motion, Knee Society score, and 5-year survivorship rate after 54 consecutive unilateral unicompartmental knee arthroplasties compared with a matched group of 54 unilateral total knee arthroplasties. The two groups of patients were matched for age, gender, body mass index, preoperative active range of movement, and preoperative Knee Society scores. All patients had osteoarthritis of the knee. Patients were assessed prospectively at 6, 18, 36, and 60 months postoperatively, and the mean follow-up was 59 months in both groups. The mean postoperative active range of motion was greater after unicompartmental knee arthroplasty, but there were no differences in the overall Knee Society knee and function scores. The 5-year survivorship rate based on revision for any reason was 88% for unicompartmental knee arthroplasty and 100% for total knee arthroplasty. The worst case 5-year survivorship rate, assuming all patients lost to follow-up had revision surgery, was 85% for unicompartmental knee arthroplasty and 98% for total knee arthroplasty. The author concluded that total knee arthroplasty was a more reliable procedure. Midterm clinical outcomes were similar for both procedures, but the complication rate may be greater for unicompartmental knee arthroplasty.

Rajasekhar et al. (2004) reported on 135 knees with anteromedial osteoarthritis in which the Oxford meniscal-bearing unicompartmental arthroplasty was performed. All the knees had an intact anterior cruciate ligament, a correctable varus deformity and the lateral compartment was uninvolved or had only minor osteoarthritis. The mean follow-up was 5.82 years (2 to 12). The investigator reported that five knees have been revised giving a cumulative rate of survival of the prosthesis at ten years of 94.04%. Knee rating and patient function were assessed using the modified Knee Society scoring system. The mean knee score was 92.2 (51 to 100) and the mean functional score 76.2 (51 to 100). He reported the survival of the implant is
comparable to that reported by the designers of the prosthesis and not significantly different from that for total knee replacement. He further stated unicompartmental knee replacement offers a viable alternative in patients with medial osteoarthritis noting that appropriate selection of patients and good surgical technique are the key factors.

In a retrospective study, Swienckowski et al. (2004) evaluated the results of unicompartmental knee arthroplasty in younger, more active patients. Forty-one physically active patients sixty years of age or younger underwent forty-six consecutive unicompartmental knee arthroplasties. Serial radiographs were used to evaluate the status of prosthetic fixation, femorotibial alignment, and the progression of arthrosis in the unreplaced compartment. Long-term survivorship was calculated with use of Kaplan-Meier analysis. The Hospital for Special Surgery knee score and the University of California at Los Angeles activity assessment were used to rate the function and to determine the activity level of each patient, respectively. The mean duration of follow-up was eleven years. Of the forty-five knees that were available for follow-up, three had been revised. The Hospital for Special Surgery score was excellent for thirty-nine (93%) of the remaining forty-two knees and good for three. The University of California at Los Angeles activity assessment score was 6.6 +/- 1.4 for the knees in which the original prosthesis had been retained and 7.3 +/- 1.5 for those in which it had been revised. Two asymptomatic patients had revision of a modular tibial component because of substantial radiographic evidence of polyethylene wear; one of these patients had exchange of the polyethylene insert and the tibial tray, and the other had exchange of the polyethylene insert only. A third patient underwent revision total knee arthroplasty because of continuing knee pain and a progressive tibial radiolucent line that was >2 mm in width. The average postoperative femorotibial alignment was 5 degrees of valgus. Nine knees had progression of arthritis in the unresurfaced compartment; none of these knees were revised, and none of the patients had deterioration in the Hospital for Special Surgery score. Kaplan-Meier analysis demonstrated an eleven-year survivorship of 92%. The investigator concluded that at an average duration of follow-up of eleven years, unicompartmental knee arthroplasty was associated with pain relief and excellent function in a cohort of patients who had been sixty years of age or younger and active at the time of surgery.

Newman et al. (1998) reported on a five year randomized, retrospective study of 102 patients that compared unicompartmental knee replacement to total knee replacement. He reported that those who had the unicompartmental surgery had an increased range of motion, less pain, and a faster recovery than those having a total knee arthroplasty. At five years, two UKAs and one TKA had been revised; another TKA was radiologically loose. All other knees appeared to be clinically and radiologically sound.

In summary, careful patient selection is critical for unicompartmental knee arthroplasty, if reliable results are to be achieved. The literature suggests that with appropriate patient selection, careful surgical technique, and proper implant design, unicompartmental knee arthroplasty may be viewed as a procedure with reliable medium-to long-term success.
Review History

August 2007  Medical Advisory Council, initial approval
December 2010  Update – no revisions
September 2011  Update – no revisions
August 2012  Update – no revisions
August 2013  Update – no revisions. Code updates
March 2014  Added note in policy statement to refer to Health Net Medical Policy on Computer Assisted Orthopedic Surgery for information regarding MAKOplasty Partial Knee Resurfacing
August 2014  Update – no revisions
August 2015  Update – no revisions. Code updates

This policy is based on the following evidence-based guidelines:


References – Update August 2015

References – Update August 2014

References – Update August 2013


References – Update August 2012

References – Update September 2011
4. Sun PF, Jia YH. Mobile bearing UKA compared to fixed bearing TKA: A randomized prospective study. Knee. 2011 Feb 21

References – Updated December 2010

References

**Important Notice**

**General Purpose.**
Health Net's National Medical Policies (the "Policies") are developed to assist Health Net in administering plan benefits and determining whether a particular procedure, drug, service or supply is medically necessary. The Policies are based upon a review of the available clinical information including clinical outcome studies in the peer-reviewed published medical literature, regulatory status of the drug or device, evidence-based guidelines of governmental bodies, and evidence-based guidelines and positions of select national health professional organizations. Coverage determinations are made on a case-by-case basis and are subject to all of the terms, conditions, limitations, and exclusions of the member's contract, including medical necessity requirements. Health Net may use the Policies to determine whether under the facts and circumstances of a particular case, the proposed procedure, drug, service or supply is medically necessary. The conclusion that a procedure, drug, service or supply is medically necessary does not constitute coverage. The member's contract defines which procedure, drug, service or supply is covered, excluded, limited, or subject to dollar caps. The policy provides for clearly written, reasonable and current criteria that have been approved by Health Net's National Medical Advisory Council (MAC). The clinical criteria and medical policies provide guidelines for determining the medical necessity criteria for specific procedures, equipment, and services. In order to be eligible, all services must be medically necessary and otherwise defined in the member's benefits contract as described this "Important Notice" disclaimer. In all cases, final benefit determinations are based on the applicable contract language. To the extent there are any conflicts between medical policy guidelines and applicable contract language, the contract language prevails. Medical policy is not intended to override the policy that defines the member’s benefits, nor is it intended to dictate to providers how to practice medicine.

**Policy Effective Date and Defined Terms.**
The date of posting is not the effective date of the Policy. The Policy is effective as of the date determined by Health Net. All policies are subject to applicable legal and regulatory mandates and requirements for prior notification. If there is a discrepancy between the policy effective date and legal mandates and regulatory requirements, the requirements of law and regulation shall govern. * In some states, prior notice or posting on the website is required before a policy is deemed effective. For information regarding the effective dates of Policies, contact your provider representative. The Policies do not include definitions. All terms are defined by Health Net. For information regarding the definitions of terms used in the Policies, contact your provider representative.

**Policy Amendment without Notice.**
Health Net reserves the right to amend the Policies without notice to providers or Members. In some states, prior notice or website posting is required before an amendment is deemed effective.

**No Medical Advice.**
The Policies do not constitute medical advice. Health Net does not provide or recommend treatment to members. Members should consult with their treating physician in connection with diagnosis and treatment decisions.

**No Authorization or Guarantee of Coverage.**
The Policies do not constitute authorization or guarantee of coverage of particular procedure, drug, service or supply. Members and providers should refer to the Member contract to determine if exclusions, limitations, and dollar caps apply to a particular procedure, drug, service or supply.

**Policy Limitation: Member’s Contract Controls Coverage Determinations.**
Statutory Notice to Members: The materials provided to you are guidelines used by this plan to authorize, modify, or deny care for persons with similar illnesses or conditions. Specific care and treatment may vary depending on individual need and the benefits covered under your contract. The determination of coverage for a particular procedure, drug, service or supply is not based upon the Policies, but rather is
subject to the facts of the individual clinical case, terms and conditions of the member’s contract, and requirements of applicable laws and regulations. The contract language contains specific terms and conditions, including pre-existing conditions, limitations, exclusions, benefit maximums, eligibility, and other relevant terms and conditions of coverage. In the event the Member's contract (also known as the benefit contract, coverage document, or evidence of coverage) conflicts with the Policies, the Member's contract shall govern. The Policies do not replace or amend the Member’s contract.

**Policy Limitation: Legal and Regulatory Mandates and Requirements**

The determinations of coverage for a particular procedure, drug, service or supply is subject to applicable legal and regulatory mandates and requirements. If there is a discrepancy between the Policies and legal mandates and regulatory requirements, the requirements of law and regulation shall govern.

**Reconstructive Surgery**

CA Health and Safety Code 1367.63 requires health care service plans to cover reconstructive surgery. “Reconstructive surgery” means surgery performed to correct or repair abnormal structures of the body caused by congenital defects, developmental abnormalities, trauma, infection, tumors, or disease to do either of the following:

1. To improve function or
2. To create a normal appearance, to the extent possible.

Reconstructive surgery does not mean “cosmetic surgery,” which is surgery performed to alter or reshape normal structures of the body in order to improve appearance.

Requests for reconstructive surgery may be denied, if the proposed procedure offers only a minimal improvement in the appearance of the enrollee, in accordance with the standard of care as practiced by physicians specializing in reconstructive surgery.

**Reconstructive Surgery after Mastectomy**

California Health and Safety Code 1367.6 requires treatment for breast cancer to cover prosthetic devices or reconstructive surgery to restore and achieve symmetry for the patient incident to a mastectomy. Coverage for prosthetic devices and reconstructive surgery shall be subject to the co-payment, or deductible and coinsurance conditions, that are applicable to the mastectomy and all other terms and conditions applicable to other benefits. “Mastectomy” means the removal of all or part of the breast for medically necessary reasons, as determined by a licensed physician and surgeon.

**Policy Limitations: Medicare and Medicaid**

Policies specifically developed to assist Health Net in administering Medicare or Medicaid plan benefits and determining coverage for a particular procedure, drug, service or supply for Medicare or Medicaid members shall not be construed to apply to any other Health Net plans and members. The Policies shall not be interpreted to limit the benefits afforded Medicare and Medicaid members by law and regulation.