



**CLAIMS EVAL**

*Utilization Review and  
Peer Review Services*

Notice of Independent Review Decision-WC

**DATE OF REVIEW: 12-9-10**

**IRO CASE #:**

**DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE**

Left total knee replacement with four-day inpatient stay

**A DESCRIPTION OF THE QUALIFICATIONS FOR EACH PHYSICIAN OR OTHER HEALTH CARE PROVIDER WHO REVIEWED THE DECISION**

American Board of Orthopaedic Surgery-Board Certified

**REVIEW OUTCOME**

Upon independent review the reviewer finds that the previous adverse determination/adverse determinations should be:

- Upheld (Agree)  
 Overturned (Disagree)

Partially Overturned (Agree in part/Disagree in part)

Provide a description of the review outcome that clearly states whether or not medical necessity exists for each of the health care services in dispute.

### **INFORMATION PROVIDED TO THE IRO FOR REVIEW**

- 5-12-09 MRI of the left knee.
- 2-16-10 X-rays of bilateral knees - standing.
- 2-16-10 X-rays of the left knee.
- 2-16-10 X-rays of the hips.
- On 2-17-10, MD., performed an Independent medical evaluation. .
- 10-15-10 MD., office visit.
- 10-22-10 MD., performed a Utilization Review.
- 11-12-10, MD., performed a Utilization Review.

### **PATIENT CLINICAL HISTORY [SUMMARY]:**

MRI of the left knee shows large tear of the posterior horn and lateral meniscus, partial bucket handle tear with displacement. Small avulsion of the posterior lateral aspect of the tibial plateau. Minimal joint effusion. Large area of bone marrow contusion of the medial femoral condyle and tibial plateau. Large area of bone marrow edema at the intercondylar eminence. Large tear of the anterior cruciate ligament with small amount of ligament remaining. Severe chondromalacia with increased involvement of the lateral patellar facet. osteophytic spurring the femoral condyles.

2-16-10 X-rays of bilateral knees - standing shows joint space narrowing of medial aspect left knee joint compartment. Sclerotic change and subchondral sclerotic changes of the tibial plateau suspicious for chronic tibial plateau fracture. Stress fracture cannot be excluded. correlation with MRI recommended.

2-16-10 X-rays of the left knee shows moderate osteoarthritic changes of the left knee with marked loss of the joint space involving the medial compartment with bony spurring off the tibial plateau in this area.

2-16-10 X-rays of the hips shows mild degenerative changes of the left hip. degenerative changes of the pubic symphysis.

On 2-17-10, MD., performed an Independent Medical Evaluation. It was his opinion that the medical documentation, at most, would support a relationship between the accident and the tear of the medial meniscus. Per the MRI, this lady had severe preexisting chondromalacia patella. Per the MRI, the mechanism of injury, and the operative report, it is likely in medical probability that the anterior cruciate ligament had been remotely torn prior to this work event. It was his opinion, based upon all of the medical information, that no additional treatment is indicated in relationship to the effects of the work event. As a result of the effects of the work event, she had a tear of the medial meniscus. This was treated appropriately by partial arthroscopic resection. There is no evidence that she had any other acute intraarticular injury as a result of the effects of the work event. The anterior cruciate ligament tear was probably old. The chondromalacia patella condition was certainly preexisting. Certainly the orthopedic surgeon is correct in opining that total knee replacement will be indicated. However, based upon all of the information, it does not appear that this would be indicated in relationship to the compensable event.

10-15-10 MD., the claimant is here for review of her left knee. She has been seen previously in this office for her left knee. She had surgery 04/14/2001 for excision of a medial meniscus tear and debridement of chondromalacia. Since then she has had surgery with Dr. with an arthroscopy. She now has been told by Dr. that she needs a knee replacement surgery. She has also been seen by a designated doctor and has been advised she needs a knee replacement surgery. She feels her knee is unstable. She is taking Meloxicam as well as Tramadol and Flexeril. She is not able to work. I have a copy of an MRI report from 05/2009 indicating that there is a large tear of the posterior horn of the lateral meniscus. There is a tear of the anterior cruciate ligament. There is severe chondromalacia and osteophytic spurring. I have a copy of an x-ray report from 02/16/2010 stating that there is joint space narrowing of the medial aspect of the left knee joint compartment. There is sclerotic change of the tibial plateau. Physical examination shows that the patient has crepitus of motion of her left knee. There is a feeling of instability at approximately 30 degrees of flexion as the knee is brought from full flexion into extension. This is quite painful to the patient. It seems that she is having an ongoing repeatable pivot shift and jerk with extension. It is known that she has not had her anterior cruciate at least since her previous surgery on 04/14/2001. She did have debridement of the anterior cruciate ligament on that surgery. She has not had a reconstruction. The patient's main area of pain is medial. There is no calf tenderness or ankle edema. There is gross ligamentous instability with anterior drawer as well as the noted shift with motion. The patient does limp when ambulating. There is no knee effusion. Her height is 65 inches. Her weight is 172 giving her a BMI between 28 and 29. X-ray examination obtained today shows large bone spurs at the medial aspect of both the femur and tibia with bone-to-bone contact at the medial joint surface. There is bony spurring with joint irregularity at the patellofemoral joint. Plan: The patient is advised that I do not think that a further arthroscopic procedure will be of benefit. He agreed with her designated doctor and with Dr. that she needs a total knee replacement. At this point the patient is quite symptomatic and wishes to proceed. This will be turned in the Worker's Compensation for approval for a knee replacement. Risks,

indications, and alternatives have been discussed in detail along with the surgery itself and postoperative course.

10-22-10 MD., performed a Utilization Review. It was his opinion that ODG recommend total knee arthroplasty for individuals who have documented degenerative change, have failed conservative care and have symptoms consistent with their physical examination findings. In general, the Milliman guidelines suggest that two to three days is an appropriate length of stay. It appears that this claimant would in fact be a reasonable candidate for total knee arthroplasty based on the information provided. It appears as though she has degenerative change demonstrated on x-rays. In fact, she has been seen by an independent medical advisor who has recommended that a total knee arthroplasty be the next step. She has failed conservative care in the form of anti-inflammatories and activity modification. She has also been through arthroscopic debridement. That said, there is no indication as to whether or not she has been through other conservative measures such as corticosteroid injection and/or viscosupplementation. Lastly, the request for a four day length of stay is beyond that which would typically be recommended. As previously stated, while the claimant may in fact be a reasonable candidate for the surgery, it is unclear as to whether or not she has truly failed all forms of conservative care, i.e., corticosteroid injection and/or viscosupplementation, and the length of stay that was requested is beyond that -which would be typically be recommended within the evidence-based literature. Thus the request, overall, cannot be viewed as reasonable or medically necessary.

11-12-10, MD., performed a Utilization Review. He noted that Dr. was not available for discussion in this case. This case was previously reviewed on 10/22/10. No additional information was provided for this review. While the claimant has imaging studies showing degenerative changes and she has treated with prior arthroscopy, anti-inflammatories and modification of activity, she has not exhausted conservative treatment which would include corticosteroid injections and viscosupplementation injections. Therefore, for these stated reasons, he could not recommend the proposed left total knee replacement and length of stay as being medically necessary. Additional documentation and/or physician discussion would be beneficial.

**ANALYSIS AND EXPLANATION OF THE DECISION INCLUDE CLINICAL BASIS, FINDINGS AND CONCLUSIONS USED TO SUPPORT THE DECISION.**

THE CLAIMANT HAS CLINICAL AND ARTHROSCOPIC AND IMAGING STUDIES SHOWING AT LEAST BI-COMPARTMENTAL DEGENERATIVE CHANGES. DESPITE HAVING BEEN TREATED WITH PRIOR ARTHROSCOPIC SURGERY, NSAIDS AND REDUCED ACTIVITY, CONSERVATIVE TREATMENT INCLUDING CORTISONE AND/OR ESPECIALLY VISCOSUPPLEMENTATION INJECTIONS HAVE NOT BEEN DOCUMENTED. THEREFORE AS PER APPLICABLE GUIDELINES, SURGICAL KNEE REPLACEMENT ARTHROPLASTY IS NOT REASONABLY REQUIRED AT THIS TIME.

## **ODG-TWC, last update 11-26-10 Occupational Disorders of the knee –**

**Arthroplasty:** Recommended as indicated below. Total hip and total knee arthroplasties are well accepted as reliable and suitable surgical procedures to return patients to function. The most common diagnosis is osteoarthritis. Overall, total knee arthroplasties were found to be quite effective in terms of improvement in health-related quality-of-life dimensions, with the occasional exception of the social dimension. Age was not found to be an obstacle to effective surgery, and men seemed to benefit more from the intervention than did women. (Ethgen, 2004) Total knee arthroplasty was found to be associated with substantial functional improvement. (Kane, 2005) Navigated knee replacement provides few advantages over conventional surgery on the basis of radiographic end points. (Bathis, 2006) (Bauwens, 2007) The majority of patients who undergo total joint replacement are able to maintain a moderate level of physical activity, and some maintain very high activity levels. (Bauman, 2007) Functional exercises after hospital discharge for total knee arthroplasty result in a small to moderate short-term, but not long-term, benefit. In the short term physical therapy interventions with exercises based on functional activities may be more effective after total knee arthroplasty than traditional exercise programs, which concentrate on isometric muscle exercises and exercises to increase range of motion in the joint. (Lowe, 2007) The safety of simultaneous bilateral total knee replacement remains controversial. Compared with staged bilateral or unilateral total knee replacement, simultaneous bilateral total knee replacement carries a higher risk of serious cardiac complications, pulmonary complications, and mortality. (Restrepo, 2007) Accelerated perioperative care and rehabilitation intervention after hip and knee arthroplasty (including intense physical therapy and exercise) reduced mean hospital length of stay (LOS) from 8.8 days before implementation to 4.3 days after implementation. (Larsen, 2008) In this RCT, perioperative celecoxib (Celebrex) significantly improved postoperative resting pain scores at 48 and 72 hrs, opioid consumption, and active ROM in the first three days after total knee arthroplasty, without increasing the risks of bleeding. The study group received a single 400 mg dose of celecoxib, one hour before surgery, and 200 mg of celecoxib every 12 hours for five days. (Huang, 2008) Total knee arthroplasty (TKA) not only improves knee mobility in older patients with severe osteoarthritis of the knee, it actually improves the overall level of physical functioning. Levels of physical impairment were assessed with three tools: the Nagi Disability Scale, the Instrumental Activities of Daily Living Scale (IADL) and the Activities of Daily Living (ADL) Scale. Tasks on the Nagi Disability Scale involve the highest level of physical functioning, the IADL an intermediate level, and the ADL Scale involves the most basic levels. Statistically significant average treatment effects for TKA were observed for one or more tasks for each measure of physical functioning. The improvements after TKA were "sizeable" on all three scales, while the no-treatment group showed declining levels of physical functioning. (George, 2008) This study showed that total knee replacement is second the most successful orthopaedic procedure for relieving chronic pain, after total hip. The study compared the gains in quality of life achieved by total hip replacement, total knee replacement, surgery for spinal stenosis, disc excision for lumbar disc herniation, and arthrodesis for chronic low back pain. Hip replacement reduced pain to levels normal for age, reduced physical functioning to within 75% normal levels, and restored quality of life to virtually normal levels. Total knee

replacement was the next most successful procedure, and it all but eliminated pain, improved physical functioning to 60% normal, and restored quality of life to within 65% of normal. ([Hansson, 2008](#)) A 6-week program of progressive strength training targeting the quadriceps femoris muscle group substantially improves strength and function following total knee arthroplasty for treatment of osteoarthritis, compared to patients who received standard of care therapy; however, addition of neuromuscular electrical stimulation (NMES) to the strength training exercise did not improve outcomes.

([Pettersen, 2009](#)) Knee replacement surgery is expensive but worth the cost, especially if performed by experienced surgeons, according to a recent study. Some \$11 billion is spent on 500,000 total knee replacements each year in the United States, and the number is projected to multiply seven times by 2030 because of the aging, overweight population. Over 90% knee replacements are successful, knee pain goes away and patients become more mobile. In the study, knee replacement surgery and subsequent costs added up to \$57,900 per patient, which was \$20,800 more than was spent on those who did not get the surgery. Those who got artificial knees lived more than a year longer in good health than those who did not, and the researchers calculated the added cost per year of good-quality life at \$18,300. ([Losina, 2009](#)) In a 7-year prospective study, patients with severe osteoarthritis who had total knee replacement had significant improvements in health-related quality of life, but health outcomes were negatively influenced by obesity and postdischarge complications, and women typically did not get as much benefit from surgery as do men. Overall, 76.8% were satisfied or very satisfied with their total knee replacement, and 79.5% said they would have the surgery again in similar circumstances. ([Núñez, 2009](#)) More than 95% of patients report that they are satisfied with the outcome of their total knee replacement 1 year after surgery. Factors that increased risk for dissatisfaction were younger age, being female, valgus alignment of the knee, and posttraumatic arthritis. ([Ayers, 2010](#))

*Unicompartmental knee replacement:* Recommended as an option. Unicompartmental knee replacement is effective among patients with knee OA restricted to a single compartment. ([Zhang, 2008](#)) In this RCT, the early results demonstrated that the unicompartmental knee replacement (UKR) group had less complications and more rapid rehabilitation than the total knee replacement (TKR) group. At five years there were an equal number of failures in the two groups but the UKR group had more excellent results and a greater range of movement. The 15 years survivorship rate based on revision or failure for any reason was 89.8% for UKR and 78.7% for TKR. The better early results with UKR are maintained at 15 years with no greater failure rate. ([Newman, 2009](#)) Long-term studies are needed to appropriately define the role of less invasive unicompartmental surgical approaches. ([Borus, 2008](#)) Unicompartmental knee arthroplasty (UKA) and total knee arthroplasty (TKA) are both recommended for the treatment of medial compartment osteoarthritis in the varus knee. Citing the arduous rehabilitation and bone loss associated with traditional knee arthroplasty, some opt for UKA, especially in young, high-demand patients. ([McAllister, 2008](#)) With appropriate patient selection, UKAs are a successful option for patients with osteoarthritis. ([Dalury, 2009](#))

*Obesity:* After total knee arthroplasty (TKA) for osteoarthritis of the knee, obese patients fare nearly as well as their normal-weight peers. A British research team reports that higher BMI (up to 35) should not be a contraindication to TKA, provided that the patient

is sufficiently fit to undergo the short-term rigors of surgery. TKA also halts the decline and maintains physical function in even the oldest age groups (> 75 years). (Cushnaghan, 2008) In this study, the rate of failure of total knee implants, at least up to 5 years after surgery, and the time to failure, were not influenced by patients' BMI, except for subjects affected by morbid obesity, but this group had a small sample size. Based on this evidence, however, it does not appear justified to give low priority to obese subjects for total knee arthroplasty, which would, as a result of restored ability to move, lead to weight loss. (Bordini, 2009) Obese patients presented for and underwent joint replacement surgery at a younger age as compared to nonobese patients. (Gandhi, 2010) Adverse events (eg, perioperative complications, post-op wound infections) occurred in 14.2% of the non-obese, 22.6% of the obese and 35.1% of the morbidly obese patients after total knee replacement. (Dowsey, 2010) A 2-year review of knee and hip replacement surgeries found that complication rates in obese patients were low, supporting doing the procedures even in the heaviest patients, but the review did show that hospital stays were longer in those who were obese than in those who were not. (Parks, 2010) Obese patients may have clinically significant weight loss after total joint arthroplasty, since their osteoarthritis had limited their mobility and ability to exercise. When weight was corrected for natural gain, the overall study population had a trend toward weight loss, and 19.9% of the study population had clinically significant weight loss. (Stets, 2010)

*Minimally invasive total knee arthroplasty:* No significant benefit was seen in using a minimally invasive surgical technique over a standard traditional technique for total knee arthroplasty, but the study did not focus on quality-of-life outcomes (eg, length of hospital stay, reliance on pain medications, and the need for inpatient rehabilitation after discharge), in which the minimally invasive approach is purported to show an advantage. (Wülker, 2010)

#### **ODG Indications for Surgery™ -- Knee arthroplasty:**

Criteria for knee joint replacement (If only 1 compartment is affected, a unicompartmental or partial replacement may be considered. If 2 of the 3 compartments are affected, a total joint replacement is indicated.):

1. Conservative Care: Medications. AND (Visco supplementation injections OR Steroid injection). PLUS
2. Subjective Clinical Findings: Limited range of motion. AND Nighttime joint pain. AND No pain relief with conservative care. PLUS
3. Objective Clinical Findings: Over 50 years of age AND Body Mass Index of less than 35, where increased BMI poses elevated risks for post-op complications. PLUS
4. Imaging Clinical Findings: Osteoarthritis on: Standing x-ray. OR Arthroscopy. (Washington, 2003) (Sheng, 2004) (Saleh, 2002) (Callahan, 1995)

#### **A DESCRIPTION AND THE SOURCE OF THE SCREENING CRITERIA OR OTHER CLINICAL BASIS USED TO MAKE THE DECISION:**

- ACOEM- AMERICAN COLLEGE OF OCCUPATIONAL & ENVIRONMENTAL MEDICINE UM KNOWLEDGEBASE**
- AHCPR- AGENCY FOR HEALTHCARE RESEARCH & QUALITY GUIDELINES**
- DWC- DIVISION OF WORKERS COMPENSATION POLICIES OR GUIDELINES**
- EUROPEAN GUIDELINES FOR MANAGEMENT OF CHRONIC LOW BACK PAIN**
- INTERQUAL CRITERIA**
- MEDICAL JUDGEMENT, CLINICAL EXPERIENCE AND EXPERTISE IN ACCORDANCE WITH ACCEPTED MEDICAL STANDARDS**
- MERCY CENTER CONSENSUS CONFERENCE GUIDELINES**
- MILLIMAN CARE GUIDELINES**
- ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES**
- PRESSLEY REED, THE MEDICAL DISABILITY ADVISOR**
- TEXAS GUIDELINES FOR CHIROPRACTIC QUALITY ASSURANCE & PRACTICE PARAMETERS**
- TEXAS TACADA GUIDELINES**
- TMF SCREENING CRITERIA MANUAL**
- PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)**
- OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)**