

IRO REVIEWER REPORT - WC



Notice of Independent Review Decision

June 24, 2013

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE:

Right Total Knee Arthroplasty

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

American Board of Orthopaedic Surgery

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 medical necessity exists for each of the health care services in dispute.

INFORMATION PROVIDED TO THE IRO FOR REVIEW:

- 8-21-12, office visit.

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- 8-21-12 X-ray of the both knees performed.
- 12-4-12, Required Medical Examination.
- 2-5-13, office visit.
- 3-21-13, office visit.
- 4-2-13, Medical Review.
- 4-4-13, Letter.
- 4-23-13, Medical Review.

PATIENT CLINICAL HISTORY [SUMMARY]:

8-21-12, the claimant is here today for complaints of pain in his right knee. He originally hurt his right knee in the year xxxx when a kicked his right knee. He was followed by another orthopedist at the time and had his knee scoped on two occasions. He's also had Synvisc and physical therapy. He's continuing to complain of pain in his knee. He's not had any relief from OTC medications. His pain interferes with activities of daily living. He does have swelling on occasion and is not able to walk very far because of severe pain. He's had a previous left total knee replacement. X-rays show him to have end-stage osteoarthritis with bone-on-bone changes in the medial compartment of the right knee. Left total knee replacement in good position and alignment. No evidence of loosening. He has varus angulations of the right knee as well. The evaluator had a long discussion with him today and with his wife concerning treatment of this, and the evaluator feels like they need to try some more conservative treatment and after sterile prep today, the evaluator injected the anteromedial compartment of his right knee with Marcaine and Kenalog 80mg. The evaluator will see him back in 4 - 6 weeks.

8-21-12 X-ray of the both knees performed, showed left total knee replacement in good position and alignment. No evidence of loosening. There is an area of what appears to be heterotopic bone over the medial femoral condyle. Right knee shows varus angulations with bone-on-bone changes in the medial compartment of the right knee, periarticular osteophytes, subchondral sclerosis.

12-4-12, performed a Required Medical Examination. It was his opinion that at this point in time, the claimant has a condition of his right knee which has progressed over time since his original injury of xxxx. Current recommended medical treatment would be reasonable and medically necessary. The claimant's examination findings as well as review of his medical records document the fact that he is a reasonable

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surgical candidate for a right total knee arthroplasty. From review of the medical records, along with clinical history and examination, the evaluator did not see evidence of co-morbidities that are affecting his treatment for the work injury. Overall, the claimant's prognosis appears to be fairly good. He has had an unrelated injury to his left knee and has had a left total knee arthroplasty and appears to be doing reasonably well from this. If he was to undergo a right total knee arthroplasty, it would increase his mobility and decrease his pain.

2-5-13, the claimant complains of right knee pain. AP standing view of both knees shows a left total knee replacement in good position and alignment. No evidence of loosening. He does have an osteophyte on the medial side of the femoral condyle. Right knee shows varus angulation with end-stage osteoarthritis medial compartment, subchondral sclerosis, periarticular osteophytes. No fractures or dislocations noted in either knee. Assessment/Plan: Missing pages.

3-21-13, the claimant is a xx year old male with significant osteoarthritis in his right knee. The evaluator had treated him previously for this with a steroid injection and it only lasted for a short period of time. He has had this problem with his knee off and on since xxxx or xxxx. At any rate, he is ready to do something definitive and would like to go ahead and schedule a total knee replacement. Diagnosis: Osteoarthrosis knee, arthralgia-pain knee. Plan: Stop tobacco use and visit your primary care physician to assist you with quitting. Regular exercise to help promote good health. Weight loss recommended because your BMI (body mass index) height to weight ratio was high at today's visit. The evaluator recommended today that he at least try one steroid injection and see how that would work and after sterile prep today. The evaluator injected the anteromedial compartment of his right knee with Marcaine and Kenalog 80 mg. The evaluator will see him back in 4 to 6 weeks. The x-ray report failed to mention that the subchondral sclerosis was primarily in the medial compartment of the knee, but the periarticular osteophytes were both found in the medial, and lateral compartments and severe crepitus in the patellofemoral joint indicates tricompartmental osteoarthritis. Please find an enclosed picture of the x-ray concerning the right knee which shows varus angulation as well which represents deformity of the knee.

4-2-13, performed a Medical Review. It was his opinion that the clinical documentation submitted for review evidences the claimant presents with continued bilateral knee pain complaints status post a work-related injury in xxxx. The clinical notes evidence an x-ray of the claimant's right knee, which revealed end stage osteoarthritis medial compartment, subchondral sclerosis, and periarticular osteophytes. However, the clinical notes lacked evidence to support the current request. There was no documentation of recent conservative modalities utilized for the claimant's pain complaints, such as supervised therapeutic interventions, no indication of the claimant's current medication regimen, the claimant presented with full range of motion to the right knee. In addition, the clinical notes evidence the claimant received an injection under the care of; however, efficacy of that intervention for the claimant's subjective complaints of pain was not noted.

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Guidelines indicate specific criteria prior to the requested surgical intervention to include, complaints of night time knee pain and limited range of motion, less than 90 degrees of flexion to support necessity of the request. Given that the claimant presents with no functional limitations prior to the requested surgical intervention, the request for right total knee arthroplasty is non-certified.

4-4-13, the evaluator noted that the claimant has undergone a Peer Review, RME report on 12-7-12. The discussion from that report indicates that the claimant had a condition of his right knee which had progressed over time since his original injury in 2000 and current recommended medical treatment would be reasonable and medically necessary. The claimant was thought to be a reasonable surgical candidate for a right total knee replacement and no comorbidities affecting treatment for the work injury were noted. The claimant's long term prognosis overall was thought to be fairly good. He had an unrelated injury to his left knee and has had a total knee replacement which appeared to be doing reasonably well and if he were to undergo a right total knee arthroplasty it would increase his mobility and decrease his pain. At this point, the evaluator has recommended him to undergo a right total knee replacement and this letter is in reference to a potential Peer Review.

4-23-13, performed a Medical Review. It was his opinion that the claimant is a male who reported an injury to his left knee on xx/xx/xx. He was reported to have been kicked by a cow. He is noted to have undergone 2 arthroscopic surgeries for partial meniscectomies and chondroplasties to the left knee, the first on xx/xx and the second on xx/xx/xx. He is reported to have initial improvement following the first surgery with return of pain, but still had pain in the medial aspect of the knee following the second surgery. The claimant is noted to have undergone Synvisc injections in 04-2001 with a little bit of relief following the first 2 injections, but no relief following the third injection. He is reported to have suffered from a progressive, ongoing knee pain. X-rays performed on 8-21-12 reported varus angulation with bone on bone changes of the medial compartment of the right knee, articular osteophytes, and subchondral sclerosis. He is noted to have received 2 steroid injections with only temporary relief of pain and repeat x-rays performed on 2-5-13 reported varus angulation with end stage osteoarthritis at the medial compartment, subchondral sclerosis, and periarticular osteophytes of the right knee. A previous request for a right knee total arthroplasty was non-certified, as there was no documentation of the claimant's current medications, no documentation of conservative modalities, such as supervised physical therapy, and the claimant presented with full range of motion. In addition, there was no documentation of nighttime pain, limited range of motion, or current functional limitations. Letter of appeal dated 4-4-13 reported the claimant had treated with Synvisc injections, steroid injections, and to have been to physical therapy, and had taken various over-the-counter non-steroids anti-inflammatory and Tylenol, and his knee had progressively worsened. The knee pain is reported to cause him significant functional problems, as he was unable to go up or down stairs and unable to perform activities such as mowing the lawn or riding his tractor. He was noted to be unable to walk more than 15 to 20 yards and reported intermittent swelling of his

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right knee depending on the amount of activities. He is noted to have developed a flexion deformity, lacking approximately 5 degrees to 10 degrees of full extension. The x-rays were reported to show significant varus angulation with severe osteoarthritis of the medial compartment, periarticular osteophytes, primarily in the medial compartment, and some subchondral sclerosis of the medial compartment and the tibia. Official Disability Guidelines state that if only 1 compartment of the knee is affected, a unicompartmental or partial replacement may be considered, and if 2 of the 3 compartments is affected, a total knee joint replacement is indicated after conservative treatment consisting of exercise therapy or supervised PT, medications consisting of non-steroidal anti-inflammatory, viscosupplementation, or steroid injections, plus subjective complaints of limited range of motion and nighttime pain and no pain relief with conservative care and documentation of current functional limitations demonstrating a necessity for intervention, plus objective findings of over 50 years of age and body mass index of under 35 with imaging findings of osteoarthritis on standing x-rays or a previous arthroscopy. The claimant is noted to have previously treated with supervised physical therapy, non-steroidal anti-inflammatory, viscosupplementation injections, and steroid injections without relief. He is reported to have a significant flexion contracture lacking 5 degrees to 10 degrees of full extension with a significantly antalgic gait. He is reported to be 61 years old and his BMI is reported to be 33.35. However, x-ray findings are reported to show severe osteoarthritis only in the medial compartment, and as such, a total knee replacement is not indicated. A partial replacement would be indicated. As such, the requested surgery does not meet guideline recommendations. Based on the above, the requested appeal of a right total knee arthroplasty 27447 is non-certified.

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

Medical records reflect a claimant with significant flexion contracture lacking 5 degrees to 10 degrees of full extension with a significantly antalgic gait. X-ray findings are reported to show severe osteoarthritis only in the medial compartment. The claimant has been treated with physical therapy, medications, NSAIDs, viscosupplementation, and steroid injections. The claimant reported nighttime pain and no pain relief with conservative care. ODG states that if only 1 compartment of the knee is affected, a unicompartmental or partial replacement may be considered, and if 2 of the 3 compartments are affected, a total knee joint replacement is indicated. Based on the records provided, this claimant would not meet ODG criteria for a Right Total Knee Arthroplasty. Therefore, the request for right total knee arthroplasty is not reasonable or medically necessary.

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Per ODG 2013 Total 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) 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

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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. ([Petterson, 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](#)) Patients undergoing total knee arthroplasty (TKA) should receive ongoing COX-2 Inhibitor therapy for 6 weeks after their procedure, according to this unpublished RCT. ([Schroer, 2011](#)) In deciding who should have knee joint replacement surgery for osteoarthritis, we need to balance potential benefits against potential risks, using the concept of capacity to benefit, that the benefits of overcoming functional limitations should considerably outweigh any likely

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risks or unintended consequences in an individual by a considerable margin for it to be indicated for that person. (Dieppe, 2011) The prevalence of knee pain and knee replacement surgeries has risen substantially during the last 20 years, but the reasons for the increase remain obscure. The rise in knee surgeries may be linked more to an increased awareness of knee pain, as opposed to aging, increased obesity, or radiographic knee osteoarthritis. The authors recommend treating physicians carefully consider, from the signs and symptoms of the patient presenting with knee pain, a broad differential diagnosis, since not all knee pain in middle-aged and older adults is the result of osteoarthritis. (Nguyen, 2011) Knee replacement surgery is a success story of modern medicine, yet consensus is lacking about the precise indications for the procedure. The number of total knee replacements (TKRs) in the United States increased from 31.2 per 100,000 person-years in the period from 1971 to 1976 to 220.9 per 100,000 person-years in 2008, for a total that year of more than 650,000 procedures. Demand for knee replacement will continue to grow in light of aging populations and rising obesity rates, which both portend higher rates of osteoarthritis. Outcomes data break down into those for TKRs vs those for partial-knee replacements (PKRs). Surgeons and their patients sometimes will choose a PKR for the sake of a more normal-feeling knee, less extensive surgery, and a lower risk for infection, knowing that they have the option of converting to a TKR if need be. However, partial replacement has a higher risk for revision surgery than total replacement, and a conversion TKR is more likely to require more follow-up than a primary TKR, according to registry data. In addition to recommending better patient selection and better reporting of outcomes, particularly as it relates to individual implant devices, the authors also call for new strategies to treat early-stage osteoarthritis in younger patients that will avoid the need for major surgery altogether. (Carr, 2012) Since there is platinum level evidence that therapeutic exercise results in improved physical function for people with knee OA, this should be part of conservative care prior to knee arthroplasty. (Fransen, 2008) This systematic review concluded that PT interventions that empower patients to actively self-manage knee OA (such as aerobic, strength, and proprioception exercise) improved outcomes the best. (Wang, 2012) The latest AAOS Guidelines for Treatment of Osteoarthritis of The Knee, include a strong recommendation that patients with symptomatic osteoarthritis of the knee participate in self-management programs, strengthening, low-impact aerobic exercises, and neuromuscular education; and engage in physical activity consistent with national guidelines. (AAOS, 2013)

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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](#))

Bicompartmental knee replacement: Not recommended. See separate entry for [Bicompartmental knee replacement](#).

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

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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) Obese patients are nearly twice as likely to incur infection after a total knee replacement, more than 2 times likely to incur deep infection, and slightly more likely to require a surgical revision than those who are not obese, according to a meta-analysis, but even with an elevated complication rate, total knee replacements provide an important improvement for patients with a high BMI. (Kerkhoffs, 2012)

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)

Bilateral knee replacement: 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) Recommend that congestive heart failure and pulmonary hypertension be contraindications for bilateral total knee arthroplasty (BTKA), but not age per se. BTKA is seen as offering advantages over staged unilateral knee replacement surgery, including reduced time in the hospital, decreased costs, and a faster return to active life. The procedure also has been shown, however, to carry an increased risk for morbidity and mortality compared with unilateral knee replacement, with overall incidence of major in-hospital complications and mortality of 9.5%. Patients with the highest risk for adverse outcomes were those with congestive heart failure (odds ratio [OR], 5.5) compared with those without comorbidities, and those with pulmonary hypertension (OR, 4.1). Other risk factors included older age, with patients who were 65 to 74 years old or older than 75 years having about twice the likelihood of complications compared with patients 45 to 65 years old. Men also showed a 50% greater risk for complications than women. Older age, however, should not necessarily rule out patients who can otherwise benefit from bilateral knee replacement, and age by itself will be a risk factor in any kind of surgery. Factors that can increase the risk with congestive heart failure

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include bone particles and marrow entering the bloodstream to embolize in the pulmonary vasculature and other organs. (Memtsoudis, 2011)

Revision total knee arthroplasty is an effective procedure for failed knee arthroplasties based on global knee rating scales. (Saleh, 2002) It would be recommended for failure of the originally approved arthroplasty.

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: Exercise therapy (supervised PT and/or home rehab exercises). AND Medications. (unless contraindicated: NSAIDs OR Visco supplementation injections OR Steroid injection). PLUS
2. Subjective Clinical Findings: Limited range of motion (<90° for TKR). AND Nighttime joint pain. AND No pain relief with conservative care (as above) AND Documentation of current functional limitations demonstrating necessity of intervention. 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 (documenting significant loss of chondral clear space in at least one of the three compartments, with varus or valgus deformity an indication with additional strength). OR Previous arthroscopy (documenting advanced chondral erosion or exposed bone, especially if bipolar chondral defects are noted). (Washington, 2003) (Sheng, 2004) (Saleh, 2002) (Callahan, 1995)

For average hospital LOS if criteria are met, see Hospital length of stay (LOS). See also Skilled nursing facility LOS (SNF)

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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)