

**Notice of Independent Review Decision**

**DATE OF REVIEW: March 4, 2013**

**IRO CASE #:**

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

*Left knee arthroscopy with meniscal debridement versus meniscal repair and purchase of postoperative hinged knee brace*

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

This case was reviewed by a board certified Orthopaedic Surgeon currently licensed and practicing in the State of Texas.

**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)

**INFORMATION PROVIDED TO THE IRO FOR REVIEW**

| <b>Type of Document Received</b>                      | <b>Date(s) of Record</b> |
|---|--------------------------|
| Physical therapy visit at Concentra Medical Center    | 11/29/2011               |
| MRI of the left knee at Preferred Imaging             | 04/09/2012               |
| Office visit by, MD                                   | 11/15/2012               |
| Notice of denial of pre-authorization from Broadspire | 12/04/2012               |

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| Notice of reconsideration from Broadspire | 01/04/2013 |
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**EMPLOYEE CLINICAL HISTORY [SUMMARY]:**

This is a 33-year old male who sustained injury on xxxxx while he was coming down the ladder when he slipped on the last step and twisted his left knee. He was treated with physical therapy. He had an MRI done on 04/09/2012 that showed horizontal intrasubstance myxoid change within the medial meniscus in the junction of the posterior horn and posterior body not specific for tearing. A progress note by Dr. on 11/15/2012 indicates pain over anterior joint line, positive McMurray's test and squat test. Gait was normal, normal range of motion 0-120 degrees flexion, and no weakness. Dr. recommended left knee arthroscopy with meniscal debridement versus repair.

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

This case involves a 33-year-old male who sustained a twisting left knee injury xxxxxx while descending a ladder. He was treated with nonsteroidal antiinflammatories and referred for physical therapy. His initial therapy evaluation is available, which suggests 3 sessions per week x 2 weeks. There is no followup documentation stating how many sessions he completed. On treating physician evaluation note from 11/29/2012, there is also the suggestion that "injections did not help". There is no clarification of what type of injection was performed (i.e. viscosupplementation versus corticosteroid), what approach was used, etc. On physical exam 11/29/2012, the patient demonstrates anterior joint line pain, a positive McMurray, and positive squat test but no focal medial joint line tenderness that would correlate with his MRI findings. He had a negative Apley compression test. MRI from 4/9/13 demonstrates horizontal intrasubstance myxoid change within the medial meniscus but not specific for tear. Of note, there were Grade II/III chondromalacia changes in the medial compartment. The treating physician made the recommendation for left knee arthroscopy with meniscal debridement versus repair and purchase of postoperative hinged knee brace.

Strictly applying the ODG guidelines for meniscectomy versus repair, I cannot say with certainty that the patient has failed conservative treatments with medications, PT, and activity modifications. I do not feel that there was documentation supporting an adequate trial of physical therapy nor activity modifications. He has 2 subjective findings with joint line pain and popping sensations; however, he has only 1 objective clinical finding with positive McMurray. The treating physician's notes point out tenderness along the anterior joint line but no focal medial joint line tenderness that would correlate with the MRI. The MRI findings are not conclusive for tear, and it is possible that the chondromalacia changes noted may be responsible for his pain. With equivocal MRI findings and questionable physical exam correlation, I think that exhausting all conservative modalities is appropriate. In conclusion, I cannot say that surgery or postoperative bracing is

medically necessary at this time as he does not meet ODG criteria with the information I have been presented.

**ODG criteria for Meniscectomy:**

Recommended as indicated below for symptomatic meniscal tears. Not recommended for osteoarthritis (OA) in the absence of meniscal findings. (Kirkley, 2008) Meniscectomy is a surgical procedure associated with a high risk of knee osteoarthritis (OA). One study concludes that the long-term outcome of meniscal injury and surgery appears to be determined largely by the type of meniscal tear, and that a partial meniscectomy may have better long-term results than a subtotal meniscectomy for a degenerative tear. (Englund, 2001) Another study concludes that partial meniscectomy may allow a slightly enhanced recovery rate as well as a potentially improved overall functional outcome including better knee stability in the long term compared with total meniscectomy. (Howell-Cochrane, 2002) The following characteristics were associated with a surgeon's judgment that a patient would likely benefit from knee surgery: a history of sports-related trauma, low functional status, limited knee flexion or extension, medial or lateral knee joint line tenderness, a click or pain noted with the McMurray test, and a positive Lachmann or anterior drawer test. (Solomon, 2004) Our conclusion is that operative treatment with complete repair of all torn structures produces the best overall knee function with better knee stability and patient satisfaction. In patients younger than 35, arthroscopic meniscal repair can preserve meniscal function, although the recovery time is longer compared to partial meniscectomy. Arthroscopy and meniscus surgery will not be as beneficial for older patients who are exhibiting signs of degenerative changes, possibly indicating osteoarthritis, and meniscectomy will not improve the OA. Meniscal repair is much more complicated than meniscal excision (meniscectomy). Some surgeons state in an operative report that they performed a meniscal repair when they may really mean a meniscectomy. A meniscus repair is a surgical procedure done to repair the damaged meniscus. This procedure can restore the normal anatomy of the knee, and has a better long-term prognosis when successful. However, the meniscus repair is a more significant surgery, the recovery is longer, and, because of limited blood supply to the meniscus, it is not always possible. A meniscectomy is a procedure to remove the torn portion of the meniscus. This procedure is far more commonly performed than a meniscus repair. Most meniscus tears cannot be treated by a repair. See also Meniscal allograft transplantation. (Harner, 2004) (Graf, 2004) (Wong, 2004) (Solomon-JAMA, 2001) (Chatain, 2003) (Chatain-Robinson, 2001) (Englund, 2004) (Englund, 2003) (Menetrey, 2002) (Pearse, 2003) (Roos, 2000) (Roos, 2001) Arthroscopic debridement of meniscus tears and knees with low-grade osteoarthritis may have some utility, but it should not be used as a routine treatment for all patients with knee osteoarthritis. (Siparsky, 2007) Arthroscopic surgery for knee osteoarthritis offers no added benefit to optimized physical and medical therapy, according to the results of a single-center, RCT reported in the New England Journal of Medicine. The study, combined with other evidence, indicates that osteoarthritis of the knee (in the absence of a history and physical examination suggesting meniscal or other findings) is not an indication for arthroscopic surgery and indeed has been associated with

inferior outcomes after arthroscopic knee surgery. However, osteoarthritis is not a contraindication to arthroscopic surgery, and arthroscopic surgery remains appropriate in patients with arthritis in specific situations in which osteoarthritis is not believed to be the primary cause of pain. (Kirkley, 2008) Asymptomatic meniscal tears are common in older adults, based on studying MRI scans of the right knee of 991 randomly selected, ambulatory subjects. Incidental meniscal findings on MRI of the knee are common in the general population and increase with increasing age. Identifying a tear in a person with knee pain does not mean that the tear is the cause of the pain. (Englund, 2008) Arthroscopic meniscal repair results in good clinical and anatomic outcomes. (Pujol, 2008) Whether or not meniscal surgery is performed, meniscal tears in the knee increase the risk of developing osteoarthritis in middle age and elderly patients, and individuals with meniscal tear were 5.7 times more likely to develop knee osteoarthritis. (Englund, 2009) AHRQ Comparative Effectiveness Research concluded that arthroscopic lavage for osteoarthritis, with or without debridement, does not improve pain and function for people with OA of the knee. (AHRQ, 2011) The repair of meniscal tears is significantly improved when performed in conjunction with ACL reconstruction. (Wasserstein, 2011)

ODG Indications for Surgery™ -- Meniscectomy:

Criteria for meniscectomy or meniscus repair (Suggest 2 symptoms and 2 signs to avoid scopes with lower yield, e.g. pain without other symptoms, posterior joint line tenderness that could just signify arthritis, MRI with degenerative tear that is often false positive):

1. Conservative Care: (Not required for locked/blocked knee.) Physical therapy. OR Medication. OR Activity modification. PLUS
2. Subjective Clinical Findings (at least two): Joint pain. OR Swelling. OR Feeling of give way. OR Locking, clicking, or popping. PLUS
3. Objective Clinical Findings (at least two): Positive McMurray's sign. OR Joint line tenderness. OR Effusion. OR Limited range of motion. OR Locking, clicking, or popping. OR Crepitus. PLUS
4. Imaging Clinical Findings: (Not required for locked/blocked knee.) Meniscal tear on MRI.

(Washington, 2003)

For average hospital LOS if criteria are met, see Hospital length of stay (LOS).

**ODG Criteria for knee braces:**

Recommended as indicated below. Recommend valgus knee braces for knee OA. Knee braces that produce a valgus moment about the knee markedly reduce the net knee adduction moment and unload the medial compartment of the knee, but could be impractical for many patients. There are no high quality studies that support or refute the benefits of knee braces for patellar instability, ACL tear, or MCL instability, but in some patients a knee brace can increase confidence, which may indirectly help with the healing process. In all cases, braces need to be used in conjunction with a rehabilitation program and are necessary only if the patient is going to be stressing the knee under load.

(Bengal, 1997) (Crossley, 2001) (D'hondt-Cochrane, 2002) (Miller, 1997) (Yeung-Cochrane, 2002) (Van Tiggelen, 2004) There are no data in the published peer-reviewed



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literature that shows that custom-fabricated functional knee braces offer any benefit over prefabricated, off-the-shelf braces in terms of activities of daily living. (BlueCross BlueShield, 2004) The use of bracing after anterior cruciate ligament (ACL) reconstruction cannot be rationalized by evidence of improved outcome including measurements of pain, range of motion, graft stability, or protection from injury. (Wright, 2007) Among patients with knee OA and mild or moderate valgus or varus instability, a knee brace can reduce pain, improve stability, and reduce the risk of falling. (Zhang, 2008) Patellar taping, and possibly patellar bracing, relieves chronic knee pain, according to a recent meta-analysis. Patellar taping may be preferred over bracing due to the fact that there is much more evidence for taping than bracing, and also because taping produces better clinical results in terms of reductions in pain than patellar bracing, plus patients are more active in their rehabilitation with taping than with bracing. (Warden, 2008) This study recommends the unloader (valgus) knee brace for pain reduction in patients with osteoarthritis of the medial compartment of the knee. (Gravlee, 2007) Evidence that knee braces used for the treatment of osteoarthritis mediate pain relief and improve function by unloading the joint (increasing the joint separation) remains inconclusive. When knees with medial compartment osteoarthritis are braced, neutral alignment performs as well as or better than valgus alignment in reducing pain, disability, muscle cocontraction, and knee adduction excursions. Pain relief may result from diminished muscle cocontractions rather than from so-called medial compartment unloading. (Ramsey, 2007) (Chew, 2007) The results of this systematic review suggest that knee braces and foot orthoses are effective in decreasing pain, joint stiffness, and drug dosage, and they also improve proprioception, balance, Kellgren/Lawrence grading, and physical function scores in subjects with varus and valgus knee osteoarthritis. They should be cautiously considered as conservative management for relief of pain and stiffness and improving physical function for persons with knee osteoarthritis. (Raja, 2011) The knee adduction moment has an integral role in the development and progression of knee OA. A number of conservative biomechanics-based interventions can reduce the knee adduction moment effectively via different mechanisms. Many of these conservative biomechanical strategies could be employed in early stage OA and might help to prevent and/or delay disease progression. Valgus knee braces secured around the thigh and lower leg and worn throughout the day are a conservative treatment strategy for patients with medial knee OA. The underlying rationale for use of a valgus knee brace is the application of a valgus moment (knee abduction moment) to the knee joint, which could reduce the knee adduction moment during walking and unload the medial compartment of the knee. Valgus knee braces reduce the net knee adduction moment during walking in healthy young adults and in patients with medial knee OA. Pain is a symptom of knee joint OA, and a valgus knee brace substantially reduces pain immediately upon use, and after continuous wear for durations ranging between 2 weeks and 12 months. Improvements in function have also been reported in patients with OA following valgus knee bracing for durations of between 6 months and 12 months. Although valgus bracing achieves effective unloading of the medial compartment of the knee and offers potential for improving the clinical outcome in patients with knee OA, the success of this intervention relies upon the patient being

prepared to wear the knee brace continually. Valgus knee braces are bulky, potentially uncomfortable and might not be a practical daily solution for many patients. (Reeves, 2011) Knee bracing after ACL reconstruction appears to be largely useless, according to a systematic review. Postoperative bracing did not protect against reinjury, decrease pain, or improve stability. (Kruse, 2012)

Criteria for the use of knee braces:

Prefabricated knee braces may be appropriate in patients with one of the following conditions:

1. Knee instability
2. Ligament insufficiency/deficiency
3. Reconstructed ligament
4. Articular defect repair
5. Avascular necrosis
6. Meniscal cartilage repair
7. Painful failed total knee arthroplasty
8. Painful high tibial osteotomy
9. Painful unicompartmental osteoarthritis
10. Tibial plateau fracture

Custom-fabricated knee braces may be appropriate for patients with the following conditions which may preclude the use of a prefabricated model:

1. Abnormal limb contour, such as:
  - a. Valgus [knock-kneed] limb
  - b. Varus [bow-legged] limb
  - c. Tibial varum
  - d. Disproportionate thigh and calf (e.g., large thigh and small calf)
  - e. Minimal muscle mass on which to suspend a brace
2. Skin changes, such as:
  - a. Excessive redundant soft skin
  - b. Thin skin with risk of breakdown (e.g., chronic steroid use)
3. Severe osteoarthritis (grade III or IV)
4. Maximal off-loading of painful or repaired knee compartment (example: heavy patient; significant pain)
5. Severe instability as noted on physical examination of knee



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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)