

Case Number:	CM14-0160549		
Date Assigned:	10/06/2014	Date of Injury:	05/01/2002
Decision Date:	11/06/2014	UR Denial Date:	09/16/2014
Priority:	Standard	Application Received:	09/30/2014

HOW THE IMR FINAL DETERMINATION WAS MADE

MAXIMUS Federal Services sent the complete case file to an expert reviewer. He/she has no affiliation with the employer, employee, providers or the claims administrator. The expert reviewer is Board Certified in Physical Medicine and Rehabilitation and is licensed to practice in California. He/she has been in active clinical practice for more than five years and is currently working at least 24 hours a week in active practice. The expert reviewer was selected based on his/her clinical experience, education, background, and expertise in the same or similar specialties that evaluate and/or treat the medical condition and disputed items/services. He/she is familiar with governing laws and regulations, including the strength of evidence hierarchy that applies to Independent Medical Review determinations.

CLINICAL CASE SUMMARY

The expert reviewer developed the following clinical case summary based on a review of the case file, including all medical records:

The injured worker is a 56-year-old male with a reported date of injury on 05/01/2002. The mechanism of injury was due to repeat trauma. His diagnoses were noted to include left knee monoarthritis; status post left total knee arthroplasty, left knee pain, left lower extremity pain out of proportion to the knee. His previous treatments were noted to include physical therapy, surgery, cane, and medications. A 3 phase bone scan performed 07/17/2014 revealed evidence of increased perfusion, blood pool, as well as osseous uptake that surrounded the left knee prosthesis. The differential diagnostic considerations would include loosening, as well as infection of the prosthesis. Further evaluation with tagged white cell study may be considered for assessment of infection. The progress note dated 09/02/2014 revealed complaints of increased pain and swelling 1 to 2 months prior. The injured worker complained of warmth and reported the warmth and swelling had decreased but the pain continued. The knee pain level was rated moderate to severe and he indicated that it was anterior and posterior. The injured worker did not notice any patterns and was not sure what made it worse. The injured worker had entire left lower extremity pain that began in his low back and radiated to his posterior thigh, knee, leg, and foot. His foot had paresthesias. The physical examination revealed a decreased range of motion with stability within normal limits. The patella tracked centrally without shift from 0 to over 115 degrees. The left leg and ankle had no swelling. The Request for Authorization form dated 09/02/2014 was for indium white blood cell scan to evaluate for infection, specifically around the knee prosthesis.

IMR ISSUES, DECISIONS AND RATIONALES

The Final Determination was based on decisions for the disputed items/services set forth below:

One indium infection scan specifically around the knee prosthesis: Upheld

Claims Administrator guideline: Decision based on MTUS ACOEM Chapter 13 Knee Complaints Page(s): 339.

MAXIMUS guideline: The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation Official Disability Guidelines (ODG), Zoga AC. (2011) Expert Panel on Musculoskeletal Imaging. ACR Appropriateness Criteria® imaging after total knee arthroplasty. [online publication]. Reston (VA): American College of Radiology (ACR) 13 p.

Decision rationale: The request for 1 indium infection scan specifically around the knee prosthesis is not medically necessary. The injured worker had a 3 phase bone scan performed 07/2014. "Leukocyte scanning using indium-111 was introduced in the 1980s. Imaging usually is performed 24 hours later. Comparison of activity on the labeled leukocyte image to activity on the bone scan has been advocated. A positive study for infection generally requires increased activity on the labeled leukocyte study, either in a different distribution (an "incongruent" scan) or in greater intensity than on the bone scan. A small sample of indium scans in uncomplicated postoperative TKA patients has shown that inflammation can persist around the operative site. One study reported an accuracy of 75% for diagnosing prosthetic knee infection with combined bone-marrow-labeled leukocyte imaging. The examination was not recommended as routine because of the expense, complexity and limited sensitivity, specificity, PPV, and accuracy. In equivocal cases, and when an experienced musculoskeletal pathologist is not available to interpret an intra-operative frozen section, these authors noted that a negative indium scan may be helpful to suggest the absence of infection. A group of researchers reported a multicenter trial of various methods for diagnosing hip and knee infections. Scans using tagged white cells or radiolabeled immunoglobulin demonstrated a sensitivity of 74% and specificity of 76% for diagnosing infection. A literature review indicates sensitivities of 40%-96% and specificities of 76%-100% for WBC scans of joint prostheses. These studies were, therefore, (as noted above) not recommended as routine for differentiating mechanical failure from occult infection in painful loose total knee prostheses. One study applied single photon emission tomography/computed tomography (SPECT/CT) using a hybrid camera to conventional Tc-99m-HMPAO-labeled leukocyte scintigraphy in patients with suspected infection. SPECT/CT was able to differentiate soft-tissue involvement from bone involvement. It may eliminate the necessity for a correlative bone scan." The National Clearinghouse Guideline does not recommend indium scan due to the expense, complexity and limited sensitivity, specificity, PPV, and accuracy. Therefore, the request is not medically necessary.