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|-----------------------|--------------|------------------------------|------------|
| <b>Case Number:</b>   | CM15-0135142 |                              |            |
| <b>Date Assigned:</b> | 07/23/2015   | <b>Date of Injury:</b>       | 10/15/2013 |
| <b>Decision Date:</b> | 09/23/2015   | <b>UR Denial Date:</b>       | 07/01/2015 |
| <b>Priority:</b>      | Standard     | <b>Application Received:</b> | 07/13/2015 |

### 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. 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/Service. He/she is familiar with governing laws and regulations, including the strength of evidence hierarchy that applies to Independent Medical Review determinations.

The Expert Reviewer has the following credentials:  
 State(s) of Licensure: Arizona, Texas  
 Certification(s)/Specialty: Internal Medicine

### 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 66 year old male, who sustained an industrial injury on October 15, 2013. He reported shoulder pain. The injured worker was diagnosed as having left closed fracture humerus proximal. Treatment to date has included surgery, diagnostic studies and medications. Currently, the injured worker complained of left shoulder pain. Physical examination of the shoulder revealed range of motion of 5 degrees of abduction, 20 degrees of external rotation and 15 degrees extension. His active and passive motion was noted to be the same. The treatment plan included laboratory evaluation and a follow-up visit. On July 1, 2015, Utilization Review non-certified the request for labs: CBC w/diff, sed rate, CRP, interleukin 1, interleukin 6, TNF alpha, indium labeled white blood cell scan, citing California MTUS Guidelines.

### IMR ISSUES, DECISIONS AND RATIONALES

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

**Labs: CBC with differential:** Overturned

**Claims Administrator guideline:** The Claims Administrator did not cite any medical evidence for its decision.

**MAXIMUS guideline:** The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation Uptodate.com.

**Decision rationale:** The MTUS and ODG are silent regarding the use of laboratory studies for the evaluation of a joint infection. According to UptoDate.com, Laboratory tests are usually nonspecific when evaluating a patient for bone or soft tissue infection. Leukocytosis may be observed in the setting of acute osteomyelitis but is unlikely in the setting of chronic osteomyelitis. The erythrocyte sedimentation rate (ESR) and/or C-reactive protein (CRP) are usually elevated but may be normal. Blood cultures may be positive in about half of cases of acute osteomyelitis; their utility may be highest in the setting of hematogenous infection [4]. Blood cultures are also more likely to be positive in vertebral disease and when hematogenous osteomyelitis involves locations such as the clavicle or pubis [17, 18]. Positive blood cultures may obviate the need for invasive diagnostic testing if the organism isolated from blood is a pathogen likely to cause osteomyelitis. This is a case of a 62 year old man who is s/p hemiarthroplasty of the shoulder with continued pain and decreased range of motion and function. The evaluating provider documented on 5/4/15 that the concern was for joint infection complicating the clinical picture and causing continued pain and decreased range of motion. The evaluation of a CBC with differential is medically necessary to assess the patient for underlying infection.

**Labs: Sed Rate:** Overturned

**Claims Administrator guideline:** The Claims Administrator did not cite any medical evidence for its decision.

**MAXIMUS guideline:** The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation www.uptodate.com.

**Decision rationale:** The MTUS and ODG are silent regarding the use of laboratory studies for the evaluation of a joint infection. According to UptoDate.com, Laboratory tests are usually nonspecific when evaluating a patient for bone or soft tissue infection. Leukocytosis may be observed in the setting of acute osteomyelitis but is unlikely in the setting of chronic osteomyelitis. The erythrocyte sedimentation rate (ESR) and/or C-reactive protein (CRP) are usually elevated but may be normal. Blood cultures may be positive in about half of cases of acute osteomyelitis; their utility may be highest in the setting of hematogenous infection [4]. Blood cultures are also more likely to be positive in vertebral disease and when hematogenous osteomyelitis involves locations such as the clavicle or pubis [17, 18]. Positive blood cultures may obviate the need for invasive diagnostic testing if the organism isolated from blood is a pathogen likely to cause osteomyelitis. This is a case of a 62year old man who is s/p hemiarthroplasty of the shoulder with continued pain and decreased range of motion and function. The evaluating provider documented on 5/4/15 that the concern was for joint infection complicating the clinical picture and causing continued pain and decreased range of motion. The evaluation of a sed rate is medically necessary to assess the patient for underlying infection.

**Labs: CRP (C-reactive protein):** Overturned

**Claims Administrator guideline:** The Claims Administrator did not cite any medical evidence for its decision.

**MAXIMUS guideline:** The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation [www.uptodate.com](http://www.uptodate.com).

**Decision rationale:** The MTUS and ODG are silent regarding the use of laboratory studies for the evaluation of a joint infection. According to [UptoDate.com](http://UptoDate.com), Laboratory tests are usually nonspecific when evaluating a patient for bone or soft tissue infection. Leukocytosis may be observed in the setting of acute osteomyelitis but is unlikely in the setting of chronic osteomyelitis. The erythrocyte sedimentation rate (ESR) and/or C-reactive protein (CRP) are usually elevated but may be normal. Blood cultures may be positive in about half of cases of acute osteomyelitis; their utility may be highest in the setting of hematogenous infection [4]. Blood cultures are also more likely to be positive in vertebral disease and when hematogenous osteomyelitis involves locations such as at the clavicle or pubis [17, 18]. Positive blood cultures may obviate the need for invasive diagnostic testing if the organism isolated from blood is a pathogen likely to cause osteomyelitis. This is a case of a 62 year old man who is s/p hemiarthroplasty of the shoulder with continued pain and decreased range of motion and function. The evaluating provider documented on 5/4/15 that the concern was for joint infection complicating the clinical picture and causing continued pain and decreased range of motion. The evaluation of a CRP is medically necessary to assess the patient for underlying infection.

**Labs: Interleukin 1, Interleukin 6:** Upheld

**Claims Administrator guideline:** The Claims Administrator did not cite any medical evidence for its decision.

**MAXIMUS guideline:** The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation [www.uptodate.com](http://www.uptodate.com).

**Decision rationale:** The MTUS and ODG are silent regarding the use of laboratory studies for the evaluation of a joint infection. According to [UptoDate.com](http://UptoDate.com), Laboratory tests are usually nonspecific when evaluating a patient for bone or soft tissue infection. Leukocytosis may be observed in the setting of acute osteomyelitis but is unlikely in the setting of chronic osteomyelitis. The erythrocyte sedimentation rate (ESR) and/or C-reactive protein (CRP) are usually elevated but may be normal. Blood cultures may be positive in about half of cases of acute osteomyelitis; their utility may be highest in the setting of hematogenous infection [4]. Blood cultures are also more likely to be positive in vertebral disease and when hematogenous osteomyelitis involves locations such as at the clavicle or pubis [17, 18]. Positive blood cultures may obviate the need for invasive diagnostic testing if the organism isolated from blood is a pathogen likely to cause osteomyelitis. This is a case of a 62 year old man who is s/p hemiarthroplasty of the shoulder with continued pain and decreased range of motion and function. The evaluating provider documented on 5/4/15 that the concern was for joint infection complicating the clinical picture and causing continued pain and decreased range of motion. The evaluation of TNF alpha or Interleukin 1 and 6 are not medically indicated according to [UptoDate.com](http://UptoDate.com). The use of these tests are not medically necessary.

**Labs: TNF alpha:** Upheld

**Claims Administrator guideline:** The Claims Administrator did not cite any medical evidence for its decision.

**MAXIMUS guideline:** The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation [www.uptodate.com](http://www.uptodate.com).

**Decision rationale:** The MTUS and ODG are silent regarding the use of laboratory studies for the evaluation of a joint infection. According to UptoDate.com, Laboratory tests are usually nonspecific when evaluating a patient for bone or soft tissue infection. Leukocytosis may be observed in the setting of acute osteomyelitis but is unlikely in the setting of chronic osteomyelitis. The erythrocyte sedimentation rate (ESR) and/or C-reactive protein (CRP) are usually elevated but may be normal. Blood cultures may be positive in about half of cases of acute osteomyelitis; their utility may be highest in the setting of hematogenous infection [4]. Blood cultures are also more likely to be positive in vertebral disease and when hematogenous osteomyelitis involves locations such as the clavicle or pubis [17, 18]. Positive blood cultures may obviate the need for invasive diagnostic testing if the organism isolated from blood is a pathogen likely to cause osteomyelitis. This is a case of a 62 year old man who is s/p hemiarthroplasty of the shoulder with continued pain and decreased range of motion and function. The evaluating provider documented on 5/4/15 that the concern was for joint infection complicating the clinical picture and causing continued pain and decreased range of motion. The evaluation of TNF alpha or Interleukin 1 and 6 are not medically indicated according to Uptodate.com. The use of these tests are not medically necessary.

**Indium labeled white blood cell scan:** Overturned

**Claims Administrator guideline:** The Claims Administrator did not cite any medical evidence for its decision.

**MAXIMUS guideline:** The Expert Reviewer did not base their decision on the MTUS. Decision based on Non-MTUS Citation [www.uptodate.com](http://www.uptodate.com).

**Decision rationale:** This is a case of a 62 year old man who is s/p hemiarthroplasty of the shoulder with continued pain and decreased range of motion and function. The evaluating provider documented on 5/4/15 that the concern was for joint infection complicating the clinical picture and causing continued pain. According to UptoDate.com, nuclear imaging is a reasonable diagnostic choice in circumstances where MRI or CT images cannot be obtained. The most common nuclear imaging studies are three phase bone scans, gallium and dual tracer scans and tagged white blood cell scans. Nuclear imaging findings must be interpreted with caution; the major limitation of these modalities is that radionuclide evidence of bone turnover or inflammation due to noninfectious bone pathology may be confused with osteomyelitis. Also, false-negative studies may occur when blood flow to the affected area is diminished. It is medically necessary to use a WBC scan to assess for underlying joint or soft tissue infection.

