

# MATUTECH, INC.

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## Notice of Independent Review Decision

**Date: October 8, 2012**

**IRO CASE #:**

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

Bone scan with white blood cell tracer.

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

Certified by the American Board of Orthopaedic Surgery  
Recertified by the American Board of Orthopaedic Surgery, 2011  
Orthopaedic Sports Medicine Subspecialty CAQ, ABOS, 2011

**REVIEW OUTCOME:**

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

X Overturned (Disagree)

Medical documentation supports the medical necessity of the health care services in dispute.

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

**Healthcare**

- Diagnostics (07/13/10 - 08/03/12)
- Office visits (09/24/10 - 08/07/12)
- Utilization reviews (08/01/12, 09/20/12)

**M.D.**

- Diagnostics (07/13/10, 08/03/12)
- Office visits (08/07/12)

**TDI**

- Utilization reviews (08/01/12, 09/20/12)

ODG and evidence-based, peer-reviewed guidelines have been utilized for the denials.

**PATIENT CLINICAL HISTORY [SUMMARY]:**

The patient is a male who injured his right shoulder on xx/xx/xx. The exact mechanism of injury is unavailable.

**2006 – 2009:** No records are available.

**2010:** On July 13, 2010, the patient underwent magnetic resonance imaging (MRI) of the right shoulder that showed the abnormal signal in the proximal humeral shaft and metadiaphysis that measured about 6.0 cm in length and 1.7 cm in diameter. A metastasis or bony destructive lesion or multiple myeloma or even lymphoma could not be excluded. There was a large full-thickness rotator cuff tendon tear involving the supraspinatus and infraspinatus and subscapularis tendon. There was evidence of previous attempted rotator cuff tendon surgery with multiple anchors in the humeral head. There were prominent degenerative changes with subarticular degenerative cystic changes involving the glenoid and humeral head. There was also synovial thickening especially inferiorly and posteriorly. There was prominent degenerative change involving the acromioclavicular (AC) joint that was difficult to evaluate secondary to the patient motion artifact. There appeared to be a large cyst that extended cephalad from that joint.

On September 24, 2010, M.D., evaluated the patient for right shoulder pain. The patient reported that he had severe ongoing pain and he was unable to use his arm. He had undergone two surgeries but still had problems. Examination of the right shoulder showed healed surgical wounds, right deltoid atrophy, significantly less active forward elevation than passive, right positive drop arm test, full passive range of motion (ROM) and 2/5 strength testing at all rotator cuff groups, positive impingement sign, tenderness over the bicipital groove, tenderness over the subacromial space and tenderness over the proximal humerus. Dr. assessed rotator cuff rupture and recommended consultation with a shoulder specialist to consider a shoulder replacement.

**2011:** No records are available.

**2012:** On May 25, 2012, M.D., evaluated the patient for moderate right shoulder pain. Examination of the right shoulder showed effusion, click on the right, crepitance on the right, limited active ROM and dysfunction due to pain. Dr. assessed right shoulder pain and prescribed Norco.

On July 10, 2012, M.D., evaluated the patient for chronic right shoulder pain, inability to use the arm and chronic numbness and tingling down into his hands. Dr. noted that the patient was injured at work in and subsequently underwent a right shoulder arthroscopic rotator cuff repair in. He subsequently had further problems and in, had another surgeon perform the same procedure, this time it was a revision rotator cuff repair. He developed a staph infection and that same

surgeon did an open irrigation and debridement sometime around 2010. He also was placed on intravenous (IV) antibiotics. Examination of the right shoulder revealed well-healed wounds, active abduction to 90 degrees and internal rotatoria above the back pocket and 4/5 strength. X-rays of the right shoulder revealed a mottling of the proximal humerus and in to the acromion and glenoid. There was significant loss of joint space and the subacromial space was lost with a high riding humerus. There were metal anchors within the humeral head. Dr. reviewed the MRI report from 2010 that had revealed full thickness rotator cuff tear at that time but also mottling of the proximal humerus consistent with some type of metastatic lesion. He diagnosed chronic multi-surgery work-related right shoulder pain with advanced degenerative changes. Dr. recommended obtaining a computerized tomography (CT) arthrogram of the right shoulder to evaluate the integrity of the rotator cuff, bony alignment and arthritic changes to help plan for future treatment. He also recommended obtaining a white blood cells (WBC) tracer bone scan that would help to evaluate for any current infection. This would also help delineate the mottling of the anatomy as well. Dr. felt that a rule out of some form of metastatic or malignancy would be important as well.

Per utilization review dated August 1, 2012, the request for WBC tracer and right shoulder bone scan was denied based on following rationale: *"The progress report dated July 10, 2012 states that the patient has chronic right shoulder pain and inability to use the arm with numbness and tingling into his hands. The patient underwent revision rotator cuff repair of his right shoulder, developed a Staphylococcal infection, and subsequently underwent open irrigation and debridement of his right shoulder and was given intravenous antibiotics approximately on 2010. Physical examination of the right shoulder revealed abduction to 90 degrees and internal rotation above his back pocket. Motor strength is at 4/5. This is a request for a bone scan of the right shoulder and white blood cell tracer to help evaluate any current infection and rule out malignancy/metastases. However, there was no objective documentation that the requesting physician screened the patient for any signs of infection or malignancy such as a report of any febrile episodes, hyperemia, unintentional weight loss, anemia and joint swelling. For the above reasons, the medical necessity of this request cannot be established at this time."*

On August 3, 2012, CT scan of the right shoulder showed evidence of previous rotator cuff repair which had failed. There was complete loss of the subacromial space consistent with a full-thickness rotator cuff tear. This was confirmed on arthrography which again demonstrated full-thickness tears of the rotator cuff. There was severe fatty atrophy of the subscapularis muscle and moderate fatty atrophy of the supraspinatus muscle belly. Advanced glenohumeral degenerative joint disease (DJD) was present. There was extensive subchondral cystic change in the humeral head and glenoid with mechanical erosion related to the full-thickness rotator cuff tears. There was also mechanical erosion of the undersurface of the acromion with cyst in both the distal clavicle and acromion. The lateral aspect of the coracoid demonstrated mild mechanical erosion due to articulation with the adjacent humeral head and complete loss of the

coracohumeral space. Advanced changes of chronic obstructive pulmonary disease (COPD) were noted in the lungs with fibrosis.

On August 7, 2012, Dr. evaluated the patient for ongoing right shoulder pain. The patient stated that his right shoulder was very painful. Examination was unchanged from the previous examination. Dr. reviewed the CT arthrogram of the right shoulder that revealed a full-thickness rotator cuff tear and advanced DJD of the glenohumeral joint. He assessed chronic right shoulder rotator cuff arthropathy. He opined that the patient had a history of multiple surgeries of the shoulder and reported one of the surgeries required irrigation and debridement for an infection of the shoulder. For even considering any further surgery on the shoulder, a WBC tracer bone scan was necessary to rule out any indolent infection of the shoulder joint and associated bony and soft tissues.

Per the reconsideration review dated September 20, 2012, the appeal for reconsideration of WBC tracer and bone scan of the right shoulder was denied based on the following rationale: *"The patient is a male who reported an injury on xx/xx/xx. He complained of right shoulder pain. An official MRI of the right shoulder dated July 13, 2010, reported the patient had had two previous right shoulder surgeries for rotator cuff tears. It noted that the patient had a large full-thickness rotator cuff tendon tear involving the supraspinatus and infraspinatus and subscapularis tendon. The patient was noted to have undergone a right shoulder surgery in 2010 and subsequently to have developed a staph infection and underwent an open irrigation and debridement in 2010. He was also reported to be placed on IV antibiotics. The patient continued to complain of chronic right shoulder pain and a clinical note dated July 10, 2010, reported the patient had an inability to use his arm. He also noted he had chronic numbness and tingling down into his hands. On physical examination, the patient was noted to have a normal head and neck exam. Examination of the right shoulder noted well-healed wounds, no redness or warmth; compartments of the higher arm are soft and non-tender. Range of motion of shoulder with abduction was 90 degrees and internal rotation was above his back pocket. Strength testing was reported to be rated 4/5. X-rays of the right shoulder reported to reveal a mottling of the proximal humerus and into the acromion and glenoid as well with significant loss of joint space and also the subacromial space with a high riding humerus. A CT arthrogram of the right shoulder dated August 3, 2012, reported prominent degenerative changes with subarticular degenerative cystic changes involving the glenoid and humeral head. He is also noted to have advanced glenohumeral joint osteoarthritis. The Official Disability Guidelines do not recommend bone scans except for bone infection, cancer or arthritis. A journal article from the Journal of Nuclear Medicine states that Labeled leukocyte imaging is most useful for detecting neutrophil-mediated inflammatory process; therefore, the procedure should be able to differentiate the inflamed aseptic loosen prosthesis in which neutrophils are generally absent from an infected prosthesis from which neutrophils are present. However, the results reported to have varied widely on accuracy of this technique. The patient was reported to have developed an infection in 2010 following a right shoulder arthroscopy for which he underwent an irrigation and debridement of his shoulder and was placed on IV antibiotics.*

There is no documentation the patient had been diagnosed with osteomyelitis of the shoulder area. As such, the request for a bone scan of the right shoulder with white blood cell tracer is not supported. Based on the above, the request for appeal bone scan right shoulder 78306 and white blood cell tracer 78806 is non-certified.

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

Based on the documentation provided, the EOI is unclear, and it is unclear that the cuff repair surgery or that the revision cuff repair surgery (followed by infection and open I&D) were related to the original claim.

So assuming that the surgeries were approved as part of the work-compensable claim, the current conditions appears to be consistent with rotator cuff arthropathy due to chronic cuff insufficiency.

The bone scan has been ordered to help define if there is infection (latent or occult osteomyelitis) in the humeral head versus a *de novo* neoplastic process. Obviously, osteomyelitis would likely be related to the work-compensable (assumed) revision surgery with subsequent infection; whereas, a neoplastic process would not be related in any way.

A bone scan can help elucidate this issue. The second reviewer cited ODG criteria for bone scans related to patients who have undergone a shoulder arthroplasty and who have an implant related to such. This citation has no application to this case. The citation is superfluous. The fact that the claimant has not “been diagnosed with osteomyelitis” is because the appropriate studies, such as a bone scan, have not been obtained. With regard to the initial reviewer, the “*objective documentation that the requesting physician screened the patient for any signs of infection or malignancy such as a report of any febrile episodes, hyperemia, unintentional weight loss, anemia and joint swelling*” does not exclude chronic infection; the reviewer has discussed criteria that are useful for acute infection, but not necessarily chronic infection.

From a pure medical standpoint, the denial of the bone scan appears to have insufficient medical rationale, based on the documentation above. Once again, an assumption is being made that the initial rotator cuff tear and the surgeries were related to the DOI and were work-compensable.

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

**x ODG- OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES**