



Medical Review Institute of America, Inc.  
America's External Review Network

DATE OF REVIEW: July 10, 2009

IRO Case #:

**Description of the services in dispute:**

Preauthorization – Ultrasound venous Doppler, left lower extremity

**A description of the qualifications for each physician or other health care provider who reviewed the decision**

The physician who provided this review is board certified by the American Board of Orthopaedic Surgery. This reviewer is a member of the American Orthopaedic Society, the American College of Surgeons, the American Academy of Orthopaedic Surgeons, the American Medical Association and the American Academy of Disability Evaluating Physicians. This reviewer has been in active practice since 1976.

**Review Outcome**

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

Upheld

**Provide a description of the review outcome that clearly states whether or not medical necessity exists for each of the health care services in dispute.**

Medical necessity does not exist for the requested ultrasound venous Doppler, left lower extremity

**Information provided to the IRO for review**

**Records Received From The State:**

Notice of case assignment, 7/15/09, 1 page

Confirmation of receipt of request for IRO, 6/24/09, 6 pages

Request for an IRO, 6/19/09, 3 pages

**Records Received**

Adverse determination notice, 4/3/09, 2 pages

Adverse determination after reconsideration notice, 5/11/09, 3 pages

Letter 7/8/09, 2 pages  
Letter 6/19/09, 2 pages  
Request for reconsideration of medical denial, 4/30/09, 1 page  
Adverse determination notice, 4/3/09, 1 page  
Request for a review by an independent review organization, 6/19/09, 3 pages  
Adverse determination after reconsideration notice, 5/11/09, 3 pages  
Adverse determination notice, 4/3/09, 1 page  
Physical therapy prescription, 4/12/09, 1 page  
Initial office visit, 11/19/08, 1 page  
Texas Workers' Compensation work status report, 11/11/08, 1 page  
Operative report, 11/28/08, 2 pages  
Follow up office visit, 12/16/08, 1 page  
Follow up office visit, 11/25/08, 1 page  
Texas Workers' Compensation work status report, undated, 1 page  
Follow up office visit note, 1/6/09, 1 page  
Texas Workers' Compensation work status report, 1/6/09, 1 page  
Follow up office visit, 10/28/08, 1 page  
Follow up office visit, 10/28/08, 2 pages  
Texas Workers' Compensation work status report, 2/3/09, 1 page  
Follow up office visit, 10/28/08, 1 page  
Texas Workers' Compensation work status report, 3/3/09, 1 page  
Letter from PT, 3/13/09, 1 page  
Letter from PT, 3/20/09, 1 page  
Follow up office visit note, 10/28/08, 1 page  
Texas Workers' Compensation work status report, 3/31/09, 1 page  
Letter from PT, 4/3/09, 1 page  
Utilization review department, 3/31/09, 1 page  
Texas Workers' Compensation work status report, 5/11/07, 1 page  
Follow up office visit note, 5/1/09, 1 page  
Photographs, undated, 2 pages  
Preauthorization request, 4/17/09, 1 page  
Fax from MD, 4/17/09, 1 page  
Fax 6/19/09, 1 page

### **Patient clinical history [summary]**

The patient is a male who suffered a crush injury to the left lower extremity when a concrete block fell across his leg. The skin and subcutaneous tissue over the tibia underwent necrosis and was debrided 11/28/08. A wound VAC was applied. Healing eventually occurred. Swelling of the leg occurred and an ultrasound venous Doppler was ordered 3/31/09. The initial request was denied

and reconsideration was denied. The clinical evaluation of 5/1/09 revealed that the swelling had resolved.

**Analysis and explanation of the decision include clinical basis, findings and conclusions used to support the decision.**

It appears that the swelling that was evident subsequent to the debridement of the skin and subcutaneous tissue was related to the expected swelling associated with inflammation and relative venous insufficiency. There was no indication that deep venous phlebothrombosis was present. The original denial and reconsideration denial were appropriate and should be upheld. Medical necessity for the performance of the ultrasound venous Doppler has not been established.

**A description and the source of the screening criteria or other clinical basis used to make the decision:**

Ultrasound, diagnostic: Recommended as indicated below. Soft-tissue injuries (meniscal, chondral surface injuries, and ligamentous disruption) are best evaluated by MR. In addition to MR, sonography has been shown to be diagnostic for acute anterior cruciate ligament (ACL) injuries in the presence of a hemarthrosis or for follow-up. (ACR, 2001) See also ACR Appropriateness Criteria™.

Venous thrombosis: Recommend identifying subjects who are at a high risk of developing venous thrombosis and providing prophylactic measures such as consideration for anticoagulation therapy. Minor injuries in the leg are associated with greater risk of venous thrombosis. The relative risk for venous thrombosis is 3-fold greater following minor injury, especially if injury occurs in the 4 weeks prior to thrombosis, is located in the leg, and involves multiple injuries or rupture of muscle or ligament. Risk for venous thrombosis is higher in those with leg injury combined with family history of venous thrombosis (12-fold risk), Factor V Leiden mutation (50-fold risk), or Factor II 20210A mutation (9-fold risk). (Van Stralen, 2008) A venous thrombosis is a blood clot that forms within a vein. Deep venous thromboses (DVTs) form in the deep veins of the legs, and if a piece of a blood clot formed in a vein breaks off it can be transported to the right side of the heart, and from there into the lungs, and is called an embolism, and this process called a venothromboembolism (VTE). Risk factors for venous thrombosis include immobility, surgery, and prothrombotic genetic variants. Studies have addressed the risk for thrombosis following major injury, and minor events, including travel, minor surgery, and minor trauma, are linked to a 3-fold increased risk for venous thrombosis. Venothromboembolism (VTE) is an important condition in hospitalized patients accounting for significant morbidity and mortality. Those at high risk should be considered for anticoagulation therapy during the post-hospitalization period. (Yale, 2005) Aspirin may be the most effective choice to prevent pulmonary embolism (PE) and venous thromboembolism (VTE) in patients undergoing orthopaedic surgery, according to a new study examining a potential role for

aspirin in these patients. Patients who received aspirin had a lower VTE risk score than the patients who received warfarin. Patients who received aspirin had a much lower use of sequential compression devices than high-risk patients, but even aspirin patients should receive sequential compression as needed. (Bozic, 2008) Patients with suspected deep vein thrombosis (DVT) of the lower extremities are usually investigated with ultrasonography either by the proximal veins (2-point ultrasonography) or the entire deep vein system (whole-leg ultrasonography). The latter approach is thought to be better based on its ability to detect isolated calf vein thrombosis; however, it requires skilled operators and is mainly available only during working hours. These two ultrasound-based evaluations, both with their advantages and disadvantages, are about equally effective at guiding the management of patients with suspected lower-extremity deep-vein thrombosis (DVT), conclude the authors of a large RCT reported in JAMA. But the writer of an accompanying editorial gives the edge to one of the techniques (2-point ultrasonography), the one that's been around longer and is simpler and probably more widely available. However, the use of 2-point ultrasonography to diagnose DVT frequently requires repeated testing in 1 week to detect calf DVT, which can extend to the proximal veins. Whole-leg Doppler ultrasonography generally obviates this requirement, making 1-day testing possible. (Bernardi, 2008) A systematic review looked at 5 types of interventions used to prevent thromboembolism in pelvic and acetabular fracture patients: mechanical compression devices, inferior vena cava filters, low-molecular weight heparins, ultrasound screening, and magnetic resonance venography screening. They concluded that there was limited data to guide which method to choose. (Slobogean, 2009) See also Compression garments; Rivaroxaban (Xarelto, Johnson & Johnson/Bayer).

ODG, 2009, Leg and Knee chapter, diagnostic ultrasound passage cited above