

1201 ELKFORD LANE  
JUSTIN, TX 76247  
817-726-3015 (phone)  
888-501-0299 (fax)

Notice of Independent Review Decision

July 2, 2013

Amended July 16, 2013

**IRO CASE #:**

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

Preoperative clearance (97705) and left leg tibia lengthening (20692, 27715 and 27720)

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

Board Certified Orthopedic Surgeon

**REVIEW OUTCOME:**

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

Overturned (Disagree)

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

Provide a description of the review outcome that clearly states whether medical necessity exists for each of the health care services in dispute.

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

**Guidelines:**

Wheeless On line, Tibia Fractures: Ilizarov / Circular Wire Fixators

HSS J. 2008 February; 4(1): 32–42.

Published online 2007 December 8. doi: 10.1007/s11420-007-9073-0PMCID:

PMC2504274Limb Salvage Reconstruction of the Ankle with Fusion and Simultaneous Tibial Lengthening Using the Ilizarov/Taylor Spatial Frame

**PATIENT CLINICAL HISTORY [SUMMARY]:**

The patient is a male who suffered a work-related injury on xx/xx/xx. He fell and sustained injuries to the left lower extremity.

**2009:** On xx/xx/xx, the patient was evaluated for injury to multiple body parts. The patient underwent x-rays of the chest that were unremarkable. X-rays of the left ankle and tibia-fibula showed open comminuted fracture of the distal tibia and fibula, possible fracture line extending into the tibiotalar joint, calcaneal fracture extending into the subtalar joint and fibular neck fracture. X-rays of the pelvis was

unremarkable. X-rays of the left knee showed a fibular neck fracture. Repeat x-rays of the left ankle and tibia-fibula showed highly comminuted overriding open distal tibia and fibula fracture with minimal increase in anterior angulation and minimal improvement of lateral displacement, calcaneal fracture with extension into the subtalar joint, stable in appearance and overriding proximal fibular neck fracture also stable in appearance. Computerized tomography (CT) scan of the left ankle and hindfoot showed oblique comminuted distal tibial fracture with lateral displacement and angulation anteriorly, open proximal tibial fracture, associated pilon fracture involving the anterior third of the tibial plafond with no depressed fragments, trimalleolar fracture involving the syndesmosis but without significant widening, calcaneal fracture extending from the inferior surface to the posterior facet, significant soft tissue swelling and small hemarthrosis, degenerative changes with anterior projecting osteophyte of the tibia, distal projecting osteophytes of the talus and osteophyte projecting into the talar tunnel. CT scan of the abdomen and pelvis showed mild atherosclerotic plaquing in the right common iliac artery. CT scan of the cervical spine showed spondylosis, moderate neural foraminal stenosis on the right at C3-C4 and C5-C6 and mild spinal canal encroachment at C3-C4 due to osteophyte.

an orthopedic surgeon, performed open reduction and fixation of intra-articular left distal tibia fracture, open reduction and fixation of left distal fibular fracture through a separate incision, incision and debridement of skin, subcutaneous tissue, muscle and bone from the open fracture. The preoperative diagnosis was grade fracture.

On October 9, 2009, CT scan of the left ankle showed interval ORIF with successful placement of lateral and medial buttress plates. There was overall global alignment of bony fragments that was near-anatomic. There was stable appearance of calcaneal fracture with extension to posterior facet of subtalar joint. There were expected postoperative changes.

On October 10, 2009, performed jet lavage, debridement and exploration of left ankle wounds, exploration of anterior tibial vessels and application of wound VAC.

On October 12, 2009, performed jet lavage, debridement and exploration of left ankle wounds and application of wound VAC.

On October 13, 2009, x-rays of the right tibia-fibula, ankle and foot showed subacute avulsion fracture of the proximal fibular head with no callus formation, degenerative changes in the calcaneal tuberosity and first metatarsophalangeal (MTP) joint and mild hallux valgus deformity.

On October 14, 2009, performed jet lavage, debridement and exploration of left ankle wounds and fractures and application of wound VAC.

On October 15, 2009, performed jet lavage, debridement and exploration of left ankle wounds and fractures, microsurgical dissection of posterior tibial vessels, harvesting of right latissimus dorsi free flap, reconstruction of left ankle with transplantation of right latissimus dorsi free flap, split-thickness graft from right thigh to left ankle, closure over the donor defect on the right chest with advancement of local tissues and immobilization with protective dressing and splints. Postoperative diagnosis was open wounds, soft tissue loss/necrosis, left

ankle with exposed fracture and surgical hardware and open left pilon and calcaneal fractures.

On October 28, 2009, noted that the patient had an open pilon fracture of the left ankle and he was doing well. Examination showed a large free flap which looked viable. The patient was getting a little stiff in the Achilles tendon. recommended repeat x-rays of the left leg and starting physical therapy (PT).

On October 30, 2009, noted that the free flaps remained completely viable and the skin graft was taking well. instructed him on wound care with application of Bacitracin ointment, Kerlix and an ACE and recommended ambulating according to the orthopedic surgeon's instructions.

On November 13, 2009, noted that the free flap remained 100% viable and the skin grafting was taking very well. He recommended wound cleaning and ambulation according to the orthopedic surgeon's instruction.

In November, the patient was evaluated. The patient had incredible more pain in the right leg than the left. It was noted that the patient had undergone surgery for left leg only. The right leg was only bandaged and booted.

On November 18, 2009, noted that the patient was doing well but complained of a lot of pain in the right knee. X-rays showed a fibular head fracture. decided to treat the patient conservatively for the right fibula fracture.

On November 30, 2009, magnetic resonance imaging (MRI) of the right ankle showed small right tibiotalar joint and subtalar joint effusion, marked patchy edema within the medial aspect of the talus including the medial aspect of the body and neck of the talus as well as the medial aspect of the sustentaculum tali indicating an area of extensive bone contusion involving the talus without evidence of displaced cortical fracture. Impression was evidence of marked wound contusion involving the medial aspect of talus.

On November 30, 2009, MRI of the right knee showed small right knee joint effusion with associated small right popliteal cyst, area of bone contusion of osteochondritis desiccans involving the medial tibial plateau and adjacent medial femoral condyle anteriorly and moderate mucoid degeneration evident within posterior horn of medial meniscus.

On December 4, 2009, noted that the free flap on the left ankle remained 100% viable and the skin graft was maturing very nicely. gave instructions for wound care. He noted that the bone grafting had been planned by the orthopedic surgeon.

On December 10, 2009, performed left percutaneous tendoachilles lengthening, left open toe tenotomies, left plantar fasciotomy (plantar fascia) and application of a short leg walking cast. Postoperative diagnosis was contracture of the left Achilles tendon, contracture of the left plantar fascia and contracture of the left toe flexors.

On December 17, 2009, noted that the patient was doing very well after treatment of nonunion in the left leg. allowed the patient to use 50% of his weight which was

about 110 lbs and recommended obtaining x-rays of the anteroposterior and lateral aspects of the tibia and walking aggressively on range of motion (ROM) of the ankle.

**2010:** On January 8, 2010, noted that there had been no breakdowns of any of the reconstructed areas or evidence of infection. The patient was instructed to continue scar management as demonstrated and to wear a compression dressing over the flap or tight sock.

On January 8, 2010, noted that the patient was doing very well. Examination showed quite poor ROM. X-rays showed that everything seemed to be healing nicely. allowed full-weight bearing and sent the patient to PT to start working on aggressive ROM.

From January 25, 2010, through April 14, 2010, the patient attended several sessions of PT consisting of therapeutic exercises, interferential current with stimulation and ice pack.

On February 9, 2010, obtained x-rays of the left ankle that showed plates and screws with no signs of shifting. However, some early consolidation was seen. recommended getting the patient out of the fracture boot and getting the patient into the Aircast and to start working on stressing that area.

On February 19, 2010, gave instructions for scar management and ordered a Jobst stocking to counteract edema.

On February 24, 2010, noted that the patient had significant irritation from the Aircast. The patient stated that after wearing it, the area just became more and more painful. prescribed Lotrisone and recommended trying to get out of the fracture boot and continuing PT.

On March 31, 2010, performed an interdisciplinary assessment. He noted that the patient's chief complaint was that of constant left leg, ankle and heel pain. The date of injury was xx/xx/xx. The pain radiated to the left ankle and it was dull, sharp, aching, numbness and tingling. The patient fell 12 feet and fractured his ankle and foot and had four surgeries in October 2009 and then had a bone graft in December 2009. There was no improvement in his pain. was considering further surgery. The pain worsened in February when the patient was in PT. He had undergone conservative treatment including trial of anti-inflammatories, muscle relaxants and analgesics, PT, rehab and home exercises. Examination of the left ankle showed cyanosis, flushing, limited mobility of the ankle and foot, swelling, discoloration and diffuses tenderness. diagnosed leg fracture, reflex sympathetic dystrophy/complex regional syndrome and chronic intractable pain. He ordered a triple-phase bone scan and referred the patient to an infectious disease specialist.

On April 13, 2010, noted that the area seemed to be consolidating although there had been some graft resorption that looked fairly good. X-rays showed posttraumatic degenerative changes, nice healing of calcaneus and nice healing of the tibia as well. performed a steroid injection.

On April 28, 2010, three-phase NM bone scan showed: (1) Considerable degree of reactive hyperemia with associated increased osteoblastic activity of the distal third of the left tibia particularly intense on the medial malleolus area, most likely the result of inflammatory changes and consistent with osteomyelitis. (2) There was mild increased activity on the right lower extremity on about to the intra-malleolar and also some increased osteoblastic activity. This could conceivably be related to a gait difference secondary to increased perfusion. (3) There was mild abnormality in both knees most likely related to the patient's gait. (4) There was dental inflammatory disease in the left upper maxillary area.

In April and May 2010, the patient attended several sessions of PT consisting of therapeutic exercises, manual therapy and ice massage.

On May 7, 2010, noted that the patient was seen by a pain management doctor who referred him for a bone scan. There was a suspicion for increased uptake around the medial malleolus which might be osteomyelitic or inflammation. Examination showed a little bit of increased redness in the area compared to the rest of the skin. The swelling had gone down quite a bit and the flap on the medial part of the distal tibia looked good. Diagnosis was possible continued infection around the medial part of the ankle. opined that there was no need for surgical debridement. He recommended a discussion from infectious disease.

On May 15, 2010, evaluated the patient for left leg, ankle and heel pain. The patient reported that PT and medications were helping. Examination showed cyanosis of the left ankle and flushing. There was left ankle and foot limited mobility and swelling and discoloration and diffuse tenderness. Diagnoses were reflex sympathetic dystrophy (RSD)/complex regional syndrome and chronic intractable pain. recommended consultation with infectious disease specialist and follow-up in two months.

On May 21, 2010, that re-evaluation and resetting of the previously performed free flap would be required for the orthopedic procedure. The bulkiness of the flap remained unchanged and the patient had increased fluctuation in the size of the ankle with ambulation. advised against revision currently and until a final decision was made regarding treatment of the ankle injury. The patient was to return after a preoperative visit once removal of the hardware was scheduled or earlier if any problems.

On May 25, 2010, noted that the patient was very symptomatic over his hardware. discussed who did not think that they were dealing with any type of an infection. recommended obtaining a CT scan of the ankle with reconstruction views and then determining if the patient was a candidate for hardware removal.

On June 18, 2010, CT scan of the left ankle showed: (1) Status post ORIF of distal left tibia and fibula fractures. Distal fibula fracture had healed, but there was no evidence of union of the distal tibia fracture. There was no evidence of loosening of instrumentation. (2) Moderate-to-severe talocrural arthrosis. (3) Ankylosis of posterior subtalar joint.

On July 2, 2010, noted that the scheduled removal of the hardware had been postponed until October at instructions.

On July 6, 2010, evaluated the patient for left fibula pain. Diagnosis was nonunion of left tibia and treatment plan was treating the delayed union with graft of left tibia.

On July 13, 2010, performed treatment of left tibial nonunion by compression technique and grafting-aborted case and examination under general anesthesia of the left ankle.

On July 15, 2010, performed treatment of the nonunion of the left tibia with autograft/compression technique, shortening of the tibia and fibula, removal of the left fibular plate, removal of left medial tibial plate and broken screws and elevation and resetting of free flap of the left leg.

On July 17, 2010, the patient was noted to be doing well with controlled pain and was discharged from the hospital.

On July 21, 2010, noted that there were no signs or symptoms of infection or DVT. He cleaned the incision. He provided him with Percocet and recommended the patient to remain on strict non-weight bearing.

On July 26, 2010, performed a peer review and rendered the following opinions: (1) The patient continued with orthopedic follow-up, infectious disease follow-up and pain management follow-up for significant open left ankle Pilon fracture, calcaneus fracture and right fibular head fracture. (2) The length and frequency of treatment was appropriate. (3) The medical services, treatments and diagnostics were medically necessary and related to the on-the-job injury. (4) The patient was being prescribed Hydrocodone and Tramadol. It was not probable that both of these were reasonable, though one or the other would be reasonable as per ODG criteria. The pharmacy notes identified low quantities being prescribed and this was reasonable given the significant injury the patient sustained. (5) The ongoing orthopedic follow-up for the multiple injuries sustained would be reasonable. Diagnosis had been given of complex regional pain syndrome, not supported based on review of available medical records. No pain management would be reasonable. There was no active formal PT reasonably required. The orthopedic surgeon should be the primary treating doctor. Referral for infectious disease might be reasonable in the future, if there was cause for concern in regard to recurrent infection. (6) Repeat diagnostics would be reasonable. Most recently a CT was ordered. Depending on the results of that, hardware removal would be reasonable if the bone had solidly healed. (7) If the patient had returned to work, no work hardening/conditioning would be reasonable per ODG criteria. There was no medical necessity for pain management. No durable medical equipment (DME) products such as transcutaneous electrical nerve stimulation (TENS) were reasonable.

On July 28, 2010, noted that the patient was doing well. The sutures were removed. He had a little bit of redness around the incision and a lot of swelling in the lower extremities. recommended keeping an Ace bandage on it and keeping the area elevated. The patient was put on double coverage antibiotic.

On August 18, 2010, noted that there was a very low drainage. X-rays showed no signs of further shifting and good callus formation. The joint was still looking

arthritic. performed cauterization with silver nitrate and placed the patient on double coverage antibiotics.

On August 19, 2010, the microbiology-acid fast cultures showed no growth after four weeks.

On September 1, 2010, noted that the wound was healing well. The patient continued to have a lot of electrical type of pains. He still required some pain medication from time-to-time, but this was decreasing. X-rays revealed early consolidation of the graft sites. noted the patient was doing a little bit more weight bearing and advised him to back off and start at 25% and advance by 25% per week. The patient was given a medical necessity form for Exogen bone healing system.

On September 29, 2010, noted that there were no signs of drainage in the ankle, but the patient still had a lot of swelling early in the day. He had some redness around it but no infection. There was a huge amount of bone formation after starting the Exogen and hence a good consolidation of the graft site was noted. The patient was weight bearing as tolerated. He was about half an inch shorter on the left side. recommended getting a half inch heel lift. The patient was to weight bearing as tolerated and work on ROM.

On November 10, 2010, noted that the patient had developed some drainage on the anterior part of his leg a week ago. X-rays of the tibia showed a broken screw and some bridging callus across the segment. recommended continuing limited weight bearing with use of the cane. The patient was to follow-up On November 10, 2010, recommended IV antibiotics for six to eight weeks.

From November 22, 2010, through January 13, 2011, the patient was seen for IV antibiotic treatment.

On December 22, 2010, noted the patient was under the care of care and was getting two IV antibiotics. It appeared that there was some bridging across the distal segment but was concerned about the hypertrophic nonunion with a lot of additional bone growth which was then seen on the outside of the palate which made the flap look even larger and a lot of fragments through the hardware. recommended obtaining a CT scan to see the state of healing.

**2011:** On January 5, 2011, CT scan of the left ankle showed transverse fracture of the distal tibial metaphysis, status post ORIF with medial metallic plate and screws. There were four screws transfixing the distal fragment, including two short screws within the medial malleolus both surrounded by lucency consistent with loosening. Two screws transfixed the tibial plafond. Both of these screws were fractured proximally. There was no evidence of loosening of the proximal aspect of tibial instrumentation. Mild dorsal angulation was seen at the fracture site. Bone graft material was evident at the fracture site, but there was not CT evidence of osseous bridging between the fragments. Dense periosteal new bone formation was seen about the distal tibial metaphysis. Fracture through the distal

metaphysis of the left fibula was seen as well. Instrumentation had been removed from the tibia. There was dense periosteal new bone formation about the fibula and hypertrophic changes were seen at fracture site, consistent with attempted healing. There was no evidence of osseous bridging between fibular fragments. Moderate talocrural arthrosis was present. There was fusion of the subtalar joint at the posterior facet.

On January 12, 2011, noted drainage around the flap site and further collapse of the fracture. The fracture had gone into varus and there were distinct lucencies all around the fracture with failed hardware. recommended asking to look at this and giving his opinion. stated that there was a need for revision, removal of hardware, ostectomy, possible compression with ring fixator or delayed reconstruction and antibiotic bead placement.

On January 14, 2011, noted that unfortunately the patient had noted drainage from his wound. was treating the patient with IV antibiotics for the last two months and the patient was on Vancomycin and meropenem. noted that the patient had active dorsiflexion and plantar flexion and medial tibial plate. As the fracture failed to unite, the patient had more than one broken screw. He had posttraumatic arthritis noted on x-rays. CT scan showed narrowing of the ankle joint related to the initial injury in all likelihood. In addition, it appeared that the patient had at least partial or even complete fusion of his subtalar joint. The patient continued to have a persistent distal tibial nonunion with a drainage wound and in addition, the patient also had quite small distal tibial fragment and narrowing of the ankle joint. spoke and recommended stopping the patient's antibiotics 10 days later and getting scheduled an aspiration of the nonunion for culture.

On January 24, 2011, the patient underwent fluoroscopically guided aspiration of the left distal tibial nonunion.

On January 25, 2011, evaluated the patient for a draining sinus over the lower leg area. The patient reported that he would require further surgery due to nonunion of the distal tibia. recommended re-evaluation of the previously performed free flap in order to access the area for the orthopedic procedure.

On January 31, 2011, noted that the aspiration was positive for Candida species, not albicans. stated that the patient would need a total of four trips to the operating room. recommended doing the surgery at the Hospital with elevating and closing the flap on the operating room trips #1 and #4, harvesting autograft bone and removing the medially based plate on the first trip to the operating room.

On February 9, 2011, noted that the patient was going for a second left ankle surgery. The culture was positive for Candida species. The patient was prescribed IV antibiotics.

On February 11, 2011, and February 15, 2011, the patient was seen. He was noted to have severe left shoulder pain. The patient stated that pain in his left shoulder was bad due to putting pressure while using crutches and cane.

On February 28, 2011, performed re-elevation of latissimus dorsi free flap left ankle (for the orthopedic procedure). Per hospital course, *the patient underwent removal of hardware, irrigation and debridement, placement of antibiotic beads and a partial excision of his left tibia.* He was then admitted to the hospital to Jones 3 for IV antibiotic treatment, for pain management and for medical management. He was brought again to the operating room (OR) on March 2, 2011, and performed an irrigation and debridement of skin, subcutaneous tissue, muscle and bone of the left tibia, radial resection of the left tibia and fibula, intramedullary reaming of the left tibia, antibiotic bead exchange of the left distal tibia, complex wound closure, medial tibial incision 20 cm and complex wound closure lateral fibular incision 15 cm. The patient then on March 4, 2011, underwent an irrigation and debridement of the skin, subcutaneous tissue, muscle and bone of the left distal tibia, antibiotic bead exchange, partial excision of the left talus and complex wound closure of 20 cm of the left distal tibia. On March 7, 2011, the patient underwent application of Ilizarov external fixator, tibia osteoplasty for bone transport, ankle arthrodesis of severe complex left tibia, Reamer, irrigator, aspirator, bone harvest of the left tibia, irrigation and debridement of skin, subcutaneous tissues, muscle and bone of the left lower extremity and removal of antibiotic beads of the left lower extremity. Later, performed coverage of the left anterior ankle defect with revision advancement of the previously performed latissimus dorsi free flap and advancement of the local tissues and closure of the lateral left ankle wound with advancement of the local tissues. The patient tolerated all these procedures well. During hospitalization, pain management service was consulted. was consulted for medical management. was consulted for infectious disease expertise and was consulted for plastic reconstructive service. The patient was discharged from the hospital on March 9, 2011. He was given Norco for pain management and was recommended to follow up in seven days.

On March 15, 2011, the patient was evaluated for his first postoperative visit following re-elevation of the free flap on the right leg. The re-elevated flap remained completely viable. The staples were removed and the stitches would be removed after 10 days. Instructions were given to cleanse the area daily with half strength peroxide, apply a small amount of Bacitracin ointment. The patient was to ambulate according to the orthopedic surgeon's instructions.

On March 21, 2011, evaluated the patient for left lower extremity pain. The patient currently complained of constant pain rated at 4/10. He had frequent muscle spasms and intermittent numbness. The patient's ongoing medications included Vancomycin, MICA and a third antibiotic, which he received through this PICC line, Azor, Gabapentin and calcium. On examination, noted that the patient had an external fixator in place and the surgical wounds appeared to be healing well. He assessed nonunion fracture and postoperative pain from placement on the external fixator. He stated that this type of pain was expected to be opiate sensitive. recommended a trial of MS Contin 30 mg one to two tablets every 12 hours, increasing his Gabapentin and re-evaluation after two weeks. He also recommended other classes of medication such as NMDA receptor antagonist,

calcium-channel blockers or tricyclic medications. For mood management, recommended re-evaluation by a pain psychologist to address situational affective symptoms.

On March 23, 2011, noted the patient's pain restricted all his daily work activities. He had not had any nerve blocks or injections for his pain. He had not undergone any physical therapy (PT), chiropractic treatment, transcutaneous electrical nerve stimulation (TENS) therapy, biofeedback, relaxation therapy, counseling, hypnosis or traction. As the patient did not get any relief with opiate medications. was to increase his Gabapentin to a more therapeutic level.

On March 25, 2011 advised him to keep his leg elevated between ambulation periods to counteract edema and return for follow-up in conjunction with his visit with the orthopedic surgeon.

On March 25, 2011, the patient returned. He had been in his Ilizarov external fixator for 18 days. AP and lateral views of the proximal tibial regenerate site and of the distal docking site were obtained. He was in his early phase of bone transport and no regenerate was seen yet as it was quite early. recommended continuing to transport 0.25 mm three times a day and follow-up in two weeks with x-rays. The Swissray was fine.

On April 8, 2011, the patient was 32 days in his Ilizarov external fixator. His x-rays and regenerate looked good. advised continuing transport three times a day.

On April 8, 2011, recommended cleansing the wound with Bacitracin ointment and ambulating as per the orthopedic surgeon's advice.

On April 18, 2011, noted the patient continued to have moderate-to-severe pain in the left leg occasionally. He assessed infected hardware and osteoarthritis of the left tibia and recommended continuing the prescribed medications. He ordered lab studies including complete blood count (CBC), comprehensive metabolic panel (CMP), C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR).

On April 29, 2011, noted the patient's wounds had matured. He recommended continuing ambulation according to the orthopedic surgeon's instructions, cleansing the area daily with soap and water and applying a small amount of skin ointment. The patient was to ambulate without restrictions.

On April 29, 2011, noted that the patient had been 53 days in his Ilizarov external fixator. His proximal regenerate and the docking site looked good. He advised to continue transport 0.25 mm four times a day. He was pleased with the patient's progress.

On May 9, 2011, started the patient on Bactrim, ciprofloxacin and fluconazole.

On May 13, 2011, noted the patient had been off his antibiotics. He was feeling much better. was much pleased with his progress.

On May 26, 2011, evaluated the patient and noted that his shoulder was much better. The right leg hurt only when it was cold. He had constant pain which was very strong in the left leg.

From May 26, 2011, through June 6, 2011, the patient attended six sessions of PT consisting of ultrasound, moist hot packs, joint mobilization, ice packs and therapeutic exercises.

On May 27, 2011, the patient returned. His lateral and AP views of the docking site distally showed good compression. The wires were slightly bending, indicating good contact with bone. Proximally, his regenerate continued to mature. advised stopping all turning and follow-up in four weeks with repeat x-rays. In an addendum, added that the patient did have some rotation of his foot and therefore he would schedule the patient to have a revision. He recommended placing a spatial frame struts distally; he would from a transport frame to the ability to compress. This was to be scheduled the following week.

On June 7, 2011, performed proximal Ilizarov revision, treatment of left distal tibial nonunion with compression technique and complex revision distal left tibia with revision from transport to distal compression.

On June 8, 2011, noted the patient was 93 days in his Ilizarov external fixator. He advised having compress 0.25 mm per day at the docking site. Proximally, he was going to continue lengthening 1 mm a day and correcting 15 degrees of internal rotation of the distal fragment relative to the proximal fragment. He advised AP and lateral view x-rays of the left tibia to include the knee and ankle and foot on his follow-up visit.

From June 13, 2011, through July 29, 2011, the patient attended 16 sessions of PT consisting of moist hot packs, ultrasound, soft tissue mobilization, and therapeutic activities/exercises.

On June 29, 2011, saw the patient and noted that the measurements between ring 4 and 5 where he was compressing at his docking site were as follows: (1) 73.2, (2) 72.2, (3) 72.6, (4) 74.0, (5) 73.6. His regenerate looked good and clinically the patient was doing well. His rotation clinically looked very good. His docking site at his ankle fusion site looked good as well. recommended scheduling the patient for a lockdown of his proximal regenerate and checking his struts twice a day. He recommended continuing to compress 0.5 mm twice a week. was pleased with the patient's progress.

On July 18, 2011, added Neurontin along with Norco and ordered lab studies.

On August 1, 2011, the patient complained of left leg pain radiating down to the knee and to the foot. He also complained of muscle spasms in the left hip radiating down the entire leg. There was severe muscle spasms noted too. On examination, noted that the external fixator was in place and there was edema in

the left lower extremity and erythema which was worst in the ankles. He assessed increased muscle spasms probably secondary to neuropathic regeneration. He added Zanaflex, continued Norco and refilled the other medications.

On August 2, 2011, performed left tibial regenerate union with compression technique and Ilizarov frame revision lockdown.

From August 8, 2011, through October 28, 2011, the patient attended 32 sessions of PT consisting of neuromuscular reeducation, aquatic therapy, gait training, therapeutic activities and therapeutic exercises.

On August 8, 2011, the patient returned. with 154 days in his Ilizarov external fixator. His x-rays showed near-touchdown with intervening bone graft. The patient was not being compressed currently. Proximally, his regenerate continued to mature and the patient stated that his proximal knee pain and proximal tibia pain had greatly reduced and resolved following his frame revision. recommended follow-up in four weeks with x-rays of the ankle and proximal tibial regenerate to decide on the compression distally.

On August 17, 2011, the patient followed up. He stated that his shoulder was doing better. But he was losing hair all over his body, which he thought was due to one of the medications that he was taking. He also complained that his left knee was hurting him immensely. The rest of the report is illegible.

On September 7, 2011, noted the patient was having problems with his medications and losing hair due to his medications. He was to see a specialist on Friday.

On September 9, 2011, the patient returned after being in his Ilizarov external fixator for 186 days. His proximal regenerate was maturing. His distal docking site still showed a radiolucent line. recommended allowing the patient to weight bear in PT, gait training and fully weight bearing as tolerated, and range of motion (ROM) of his knees. He recommended follow-up in six weeks with repeat x-rays.

On September 11, 2011, noted the patient was now able to put 70 pounds of weight on his left leg. He assessed osteoarthritis of the left tibia, leg pain and hair loss. He discontinued fluconazole but continued Neurontin and Norco.

On September 26, 2011, noted the patient to be utilizing Norco and Zanaflex. The patient rated his pain as 5/10. He was in a wheelchair and not ambulating. The pin sites appeared clear without drainage. assessed extreme pain secondary to nonunion fracture, doing well with opiates, no signs of inappropriate drug use and persistent incident related pain. He recommended addressing the timing of medications and reviewing next month. He refilled Norco, Voltaren, Lidoderm patches.

On September 27, 2011, performed impairment rating (IR) evaluation and assessed clinical maximum medical improvement (MMI) with a whole person impairment rating (WPI) of 15%.

On November 8, 2011, evaluated the patient for left lower extremity pain exacerbated by activity, therapy and use of crutches and having to walk. Pain would get worse with cold. He was utilizing Norco, Neurontin and a muscle relaxant. The patient felt that he had built tolerance to the Norco and had no pain relief. He had no changes with medications. Only Zanaflex was helping with the spasms. Examination revealed the patient in a wheelchair not ambulating and Iliizarov fixator on the left lower extremity. recommended a trial of Fentanyl with Tramadol for BTP and continuing Norco and Neurontin.

On November 8, 2011, evaluated the patient to rule out metabolic bone disease.

The patient reported that he sustained a compound fracture of his left lower extremity and also broke his right lower extremity and ankle. The other fracture healed but the lower extremity remained as a nonunion fracture. He had an Iliizarov put in on March 7, 2011, and so far the healing had been delayed. diagnosed nonunion fracture of left lower extremity/suspicious unspecified disorder of miner metabolism, osteomyelitis status post treatment with IV antibiotics for six months, history of prolonged steroid intake for a year in the past for a misdiagnosis of rheumatoid arthritis, fatigue and muscle cramps. She ordered laboratory studies and started Citracal Plus D one tablet and 2000 units of vitamin D. She recommended sitting in the sun for 15 minutes every day.

On November 22, 2011, evaluated the patient for instability between rings 2 and 3. He recommended continuing non-weight bearing and follow-up in one week.

On November 22, 2011, the patient was evaluated. The report is illegible.

On November 29, 2011, laboratory studies revealed increased 3<sup>rd</sup> generation TSH and thyroid peroxide antibodies.

On December 2, 2011, obtained x-rays. The patient had a feeling of instability on ring 3 but there were no broken wires. Tapping on the wires on ring 3 did not create any pain. felt that the docking site was not yet solid at the tibiotalar junction. He recommended starting weight bearing and compression again.

On December 6, 2011, noted the patient had mixed types of pain all through the leg; elevating the leg helped but activity where the leg would be down increased his pain. recommended continuing all medications as prescribed.

**2012:** On January 4, 2012, noted that proximal regenerate appeared very good and was maturing nicely. X-rays showed that proximal regenerate looked good. He ordered a CT scan of the ankle.

On January 5, 2012, prescribed Bactrim and Cipro.

On January 16, 2012, CT scan of the left ankle showed limited evaluation due to the presence of an Ilizarov external fixator. There was minimal healing present anteriorly and posteriorly which was tenuous and appeared to account for approximately 5 to 10% of the joint surface area.

On January 16, 2012, recommended beginning compression again at ¼ mm twice a day for two weeks followed by compression ¼ mm once a day. was satisfied with the progress. He recommended x-rays on follow-up.

On February 13, 2012, recommended to stop the distracting and follow-up in a month with three views of the ankle. He felt that distracting across the ankle fusion site would cause further bone formation.

On February 14, 2012, noted biting sharp pain all over the left lower extremity. The patient had started having spasms again and had increased muscle relaxant again with no relief. added Lorzone and refilled Norco and Fentanyl.

On February 28, 2012, felt that the patient would need daily wound care to the left leg.

On February 29, 2012, a request for transcutaneous electrical nerve stimulation (TENS) unit was submitted.

On March 9, 2012, noted that the patient was clinically doing okay. AP and lateral of the proximal regenerate looked good. He recommended frame dynamization to treat ankle fusion nonunion and see if he could get this solidly healed.

On March 9, 2012, recommended continuing Fentanyl and Norco.

On March 27, 2012, requested for 30 skilled nurse visits.

On March 29, 2012, performed ankle arthrodesis/fusion with compression of the left ankle and Ilizarov frame revision dynamization of the left lower extremity.

On April 3, 2012, requested for 30 skilled nursing visits.

On April 10, 2012, the patient underwent PT evaluation and was recommended PT three times a week for six weeks consisting of therapeutic exercise, therapeutic activities, neuromuscular re-education and aquatic therapy.

From April 18, 2012, through June 13, 2012, the patient was evaluated who noted hypertrophic bone at the docking site but he felt that the docking site was not consolidated. He recommended frame removal and debridement of the pin sites. Later, he placed the patient in a PTB cast.

On July 11, 2012, felt that the soft tissues looked good and recommended proceeding with hindfoot nailing for ankle and subtalar fusion.

On August 8, 2012, evaluated the patient for follow-up following hindfoot nailing. The incisions looked good. He ordered repeat x-rays.

On September 5, 2012, noted that he was doing well. The x-rays looked good. He recommended gait training in the pool with water chest-high. The patient was recommended follow-up in six weeks with repeat x-rays.

On September 11, 2012, the patient underwent PT evaluation and was recommended therapy.

On October 17, 2012, noted that x-rays revealed good positioning and good local biology reaction. He recommended full weight bearing in PT and referred the patient for a shoe lift with a rocker bottom shoe. was pleased with the progress.

Per October 25, 2012, PT evaluation note, the patient had attended 19 sessions of PT.

On November 19, 2012, obtained x-rays that revealed the ankle showing what appeared to be continued incorporation to make certain that the ankle was solidly fused. He felt that the patient needed more therapy but the worker's comp had not approved this. noted that the patient had devastating injury with infection of his pilon fracture treated with plate and screw fixation. The patient had trouble walking in a rocker bottom shoe. He referred the patient for PT and recommended weaning out of the brace and getting into rocker bottom shoe. He ordered CT scan in two months. He opined that the patient would need lengthening of the left tibia in the future.

In a letter of appeal dated December 11, 2012, requested for PT.

**2013:** On January 14, 2013, CT scan of the left ankle showed 70-80% fusion of the tibiotalar joint and complete fusion of the posterior subtalar joint. A portion of the tibiotalar fusion was not solid anteriorly.

On January 21, 2013, noted that the patient had ongoing pain in several areas of his foot. He referred the patient for evaluation.

On February 4, 2013, evaluated the patient for left ankle and foot pain and ankle evaluation. He noted that the patient had a total of 12 surgeries and had just recently started walking on it approximately two months ago. He had leg length discrepancy. The patient complained of sharp pain but also areas with nerve-type tingling pain. Examination revealed limping gait. The patient had a 1.5 inch lift on his left shoe. There was mild hammering of the lesser toes. There was diffuse tenderness around the ankle, palpable hardware laterally, tight Achilles tendon and percussion signs associated with sural nerve and saphenous nerve distally. There was decreased sensation on the dorsal aspect of the foot diffusely with some subjective decreased sensation on the plantar aspect of the foot. There was limited ROM. X-rays of the left foot showed status post hindfoot fusion with a retrograde nail and a mild increase of the arch. There was mild hammering of the

lesser toes on the lateral view. There were degenerative changes in the midfoot area diffusely. Bone density was somewhat decreased. diagnosed unspecified mononeuritis of the lower limb and left ankle pain. He prescribed Neurontin and recommended conservative treatment including plantar massage, accentuated rocker bottom on shoe and OTC orthotics. He ordered diagnostic injections over the sural and saphenous nerves to improve pain. X-rays of the left foot were ordered. The patient was instructed to weight bear and return to activities as tolerated.

On March 8, 2013, evaluated the patient for moderate left ankle pain with some stiffness and compression in the midfoot. It was described as electrical-type sensation medially and later. Examination revealed limited midfoot ROM with some soft tissue thickening and mild tenderness dorsally and plantarly. He administered a diagnostic injection into both saphenous and sural nerves.

On March 15, 2013, the patient reported that the numbness wore off in about 4-6 hours after the injection. The injection was effective for the areas injected. He had burning pain in the new area on the medial side of the arch/in-step of the foot He was instructed to elevate, ice, soft tissue massages and rest.

On March 20, 2013, obtained x-rays that showed solid fusion; nail was in a good position. The patient wanted to proceed with the lengthening. He recommended blood work and anesthesia clearance.

Per utilization review dated April 2, 2013, the request for preoperative clearance (97705) and left tibia lengthening (20692, 27715 and 27720) was denied with the following rationale: *"The current literature indicates tibial lengthening using external fixation is a well established method to equalize leg length discrepancy. During the past decade, internal lengthening devices were developed to reduce complication rates and to improve patient comfort. The records indicate the claimant has at least 7 cm of shortening after his fractures. The request for a left tibia lengthening and pre-operative clearance is not certified.*

Per reconsideration review dated April 29, 2013, the appeal for preoperative clearance (97705) and left tibia lengthening (20692, 27715 and 27720) was denied with the following rationale: *"The request for left tibia lengthening 20692, 27715, 27720 and pre-op clearance 97705 from 04/02/2013 to 05/03/2013 is non-certified. This patient is a male who reported an injury on xx/xx/xx. The documentation submitted for review indicates the patient was injured as a result of a fall from a third floor level to a second floor level, causing the patient to suffer multiple fractures. Most notably, the patient has undergone multiple surgeries to the left leg, with the most recent being ankle fusion on July 26, 2012. CT of the patient's left ankle on January 14, 2013 indicated the patient's ankle and subtalar joints were solidly fused. The notes indicate the patient continues to have some pain in several areas of the foot and that the patient would be referred for expert evaluation and opinion; afterward, the patient would be seen to discuss findings. The most recent clinical notes submitted for review details the patient underwent x-rays which showed a solid fusion with the patient's nail in good position. The*

notes detail the patient wishes to proceed with lengthening and that the patient would be scheduled for blood work and anesthesia clearance. The Official Disability Guidelines do not directly address tibial lengthening. The CPT codes provided are for 20692, external fixator; 27715, osteoplasty lower leg, lengthening or shortening; 27720, repair of non-union tibia; and 97705, orthotics/prosthetic evaluation. This case was previously reviewed and non-certified as current literature indicated that tibial lengthening was a well-established method with the use of external fixation. The documentation submitted for this review likewise details the recommendation for tibial lengthening using external fixation as a well-established method to equalize leg length discrepancy. Also, literature indicates the development of internal lengthening devices in an attempt to reduce complication rates to improve patient's comfort. However, notes indicate the patient was seen for a second opinion but the notes indicating the findings from the second opinion were not submitted for review. I spoke with and discussed the case. Additional clinical information would be submitted to support the request. I received additional documentation on April 29, 2013 at 11:42 am CST in the form of clinical notes dated February 4, 2013, 03/08/2013 and 03/15/2013 The patient was seen and evaluated on February 4, 2013, and March 8, 2013, as well as provided an injection on March 8, 2013. Follow up phone call performed on March 11, 2013, regarding the effects of the injection noted the patient stated the numbness wore off in about 4-6 hours but had a new area to the medial side of the arch/in-step of the foot that now has burning pain. It was recommended on March 15, 2013, the patient follow up However, these notes do not detail the outcome of the follow up visit after March 15, 2013. Additionally, notes detail the patient was given an injection with results of pain relief for 4-6 hours. As such, the request for left tibial lengthening 20692, 27715, 27720 and pre-op clearance 97705 from April 2, 2013 to May 3, 2013 is non-certified."

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

Request is:

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

Preoperative clearance (97705) and left leg tibia lengthening (20692, 27715 and 27720)

Review of the records provided supports the claimant is a gentleman, status post a slip and fall episode from height xx/xx/xx. He was treated for an open fracture of tibia/fibula with calcaneal fracture. The claimant was treated with open reduction internal fixation as well as irrigation and debridement.

There were no intraoperative or postoperative complications noted. Postoperatively, a CAT scan showed interval open reduction internal fixation with plates, overall global alignment and bony fragments that were described as near anatomic, stable calcaneus fracture.

The claimant was treated with postoperative repeat irrigation and debridement on multiple occasions, grafting with a free flap. The claimant was noted to have a

right fibular head fracture and was treated conservatively. He was noted to have a contusion of the talus on MRI 11/30/09. The claimant was treated with percutaneous tendo-Achilles lengthening and toe tenotomies, and plantar fasciotomy, application of a short leg walking cast, 12/10/09. It was felt the claimant was doing well for treatment of a nonunion left leg. The claimant was then treated with physical therapy, scar management, and Jobst stockings. There was evidence on a bone scan of 04/28/10 of osteomyelitis of the medial malleolus and postoperative changes. The claimant treated with pain management and physical therapy. There was concern for reflex sympathetic dystrophy, chronic regional pain syndrome, and the claimant treated with Infectious Disease consultation.

A CAT scan showed postoperative changes, hardware placed on 06/18/10. The fibula fracture had healed. There was evidence of nonunion of the distal tibia. There were post-traumatic degenerative changes noted. The claimant underwent shortening of the tibia and fibula with compression on 07/15/10, removal of hardware, resetting of the flap, and discharged home. Postoperative, the claimant was treated with conservative measures. The wounds were healing. X-rays showed early consolidation. He was treated with a bone graft stimulator system, advance to weight bearing. He was noted to be short on the left lower extremity, 09/29/10. They recommended a shoe lift, weight bearing as tolerated, work on range of motion. The claimant treated with antibiotics.

A CAT scan showed postoperative changes. There was persistent drainage. Aspiration showed evidence of a fungal infection 01/31/11, and he was treated with surgical removal of hardware, irrigation and debridement, placement of antibiotic beads, partial excision of the tibia and ultimately with wound closure, pain consultation, physical therapy, Ilizarov external fixation with compression with revision from transport to the distal compression.

He was doing well with this treatment including tibial regenerate union on 08/02/11. The claimant was treated with physical therapy, and 154 days into his Ilizarov, he was doing well. He was advanced to weight bear and physical therapy on 09/09/11. They dynamized the frame. They removed the frame and débrided the pin sites, and he was placed in a cast in April 2012 through July of 2012. A CAT scan on 01/14/13 showed 70 to 80 percent fusion of the tibiotalar joint and complete fusion of the posterior subtalar joint. The claimant was noted to have approximately 12 surgeries on 02/04/13 with a leg length discrepancy, s 1.5 inch lift in his left shoe, tightness and hammering of his toes, diffuse tenderness, decreased sensation, and limited range of motion. X-rays showed a posterior hindfoot fusion with retrograde nail.

noted the claimant had solid fusion, and the nail was in a good position on 03/20/13. The claimant wanted to proceed with lengthening. He recommended blood work and anesthesia clearance.

Based on review of extensive records provided, evidence-based medicine, and my own training and experience as a board certified orthopedic surgeon, without benefit of peer discussion today, I would offer that the proposed surgery, medical

clearance and left leg tibial lengthening using external fixation is medically reasonable and related to a slip and fall episode from height from xx/xx/xx, after which the claimant underwent multiple surgical corrections and was left with significant left lower extremity shortening. I would note that in this case, the options certainly would include use of a heel lift to provide the lengthening versus actual tibial limb lengthening.

Given the previous history and the persistent complaints of pain and difficulty with the leg length inequality, the proposed surgery is found to be medically reasonable, and certainly the claimant has exhausted care previous to this to include multiple surgeries and nonoperative interventions.

Should further records or peer review in this difficult case become available for review, I would be happy to take it into consideration. I do hope the information provided is useful in advising the principals of this matter.

---

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

- PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)**