



Notice of Independent Review Decision

DATE OF REVIEW:

12/18/2007/AMENDED 12/20/2007

IRO CASE #:

DESCRIPTION OF THE SERVICE OR SERVICES IN DISPUTE

L3905-WHO (includes one or more nontorsion joints) and L3913-HFO (without joints custom fabricated).

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

Board Certified Orthopaedic Surgeon

REVIEW OUTCOME

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

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.

The request for L3905-WHO (includes one or more nontorsion joints) and L3913-HFO (without joints custom fabricated) is medically necessary.

INFORMATION PROVIDED TO THE IRO FOR REVIEW

- Case Report dated 12/11/07
- Referral dated 12/11/07
- DWC: Notice To LLC of Case Assignment dated 12/10/07
- DWC: Notice To Utilization Review Agent Of Assignment dated 12/10/07
- DWC: Confirmation Of Receipt Of A Request For A Review dated 12/07/07
- Rehabilitation Associates: WC Pre-Auth Request Forms dated 12/06/07, 10/26/07, 10/03/07
- Center: Letter dated 11/27/07 from, M.D.
- IMO: Adverse Determination Letter (Appeal) dated 11/06/07
- Center: Follow up Exam dated 10/25/07 from, M.D.
- Rehabilitation Associates: Therapy Referrals dated 10/25/07, 09/27/07
- LHL009: Request For A Review By An Independent Review Organization dated 10/24/07
- Rehabilitation Associates: Letter dated 10/24/07 from, OTR
- Rehabilitation Associates: Therapy Progress Update dated 10/23/07 from, OTR
- IMO: Adverse Determination Letter (Initial) dated 10/09/07
- Rehabilitation: ROM Evaluations dated 09/21/07 and 09/12/07 through 11/13/07
- Therapy notes dated 09/27/07 through 11/30/07
- Center: Initial Exam dated 09/12/07 from, M.D.

- DWC: Undated letter regarding the use of appropriate Workers' Compensation Non-Network IRO Decision template
- NOTE: Carrier did not supply ODG guidelines.

PATIENT CLINICAL HISTORY [SUMMARY]:

The injured individual is a xx-year-old female who was reported to have sustained a minimally displaced closed intra-articular distal radius fracture in a fall on xx/xx/xx. There are no medical records until she is seen by M.D. on 09/06/07. He reported that her dorsum of her hand was shiny and waxy in character. It was painful to manipulation and demonstrated limited motion to the digits and wrist. X-rays revealed a healed intra-articular distal radius fracture with some mild dorsal angulation and diffuse osteopenia. His diagnosis was complex regional pain syndrome (CRPS) following a distal radius fracture. He recommended aggressive therapy. There is documentation of the injured individual making improvement in motion initially and then regressing with decreased therapy.

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

The injured individual is a xx-year-old female who sustained what was reported to be a minimally displaced intra-articular fracture on xx/xx/xx. This was treated with cast immobilization for six weeks. There is a huge gap in the medical record between injury and the first visit to Dr. (09/06/07). His clinical findings on that date suggest the development of Reflex Sympathetic Syndrome/Chronic Regional Pain Syndrome following the injury. This is a known potential complication of fracture. The diagnosis has not been confirmed as recommended by the Official Disability Guidelines (ODG) or treatment begun to address this potentially disabling condition.

ODG:

Under study. There are no objective gold-standard diagnostic criteria for CRPS I or II.

A. CRPS-I (RSD):

The IASP (International Association for the Study of Pain) has defined this diagnosis as a variety of painful conditions following injury which appear regionally having a distal predominance of abnormal findings, exceeding in both magnitude and duration the expected clinical course of the inciting event and often resulting in significant impairment of motor function, and showing variable progression over time. (Stanton-Hicks, 1995) Diagnostic criteria defined by IASP in 1995 were the following: (1) The presence of an initiating noxious event or cause of immobilization that leads to development of the syndrome; (2) Continuing pain, allodynia, or hyperalgesia which is disproportionate to the inciting event and/or spontaneous pain in the absence of external stimuli; (3) Evidence *at some time* of edema, changes in skin blood flow, or abnormal sudomotor activity in the pain region; & (4) The diagnosis is excluded by the existence of conditions that would otherwise account for the degree of pain or dysfunction. Criteria 2-4 must be satisfied to make the diagnosis. These criteria were found to be able to pick up a true positive with few false negatives (sensitivity 99% to 100%), but their use resulted in a large number of false positives (specificity range of 36% to 55%). (Bruehl, 1999) (Galer, 1998) Up to 37% of patients with painful diabetic neuropathy may meet the clinical criteria for CRPS using the original diagnostic criteria. (Quisel, 2005) To improve specificity the IASP suggested the following criteria: (1) Continuing pain disproportionate to the inciting event; (2) A report of one *symptom* from each of the following four categories and one *physical finding* from two of the following

four categories: (a) Sensory: hyperesthesia, (b) Vasomotor: temperature asymmetry or skin color changes or asymmetry, (c) Sudomotor/edema: edema or sweating changes or sweating asymmetry, or (d) Motor/trophic: reports of decreased range of motion or motor dysfunction (weakness/tremor or dystonia) or trophic changes: hair, nail, skin. This decreased the number of false positives (specificity 94%) but also decreased the number of true positives (sensitivity of 70%). ([Bruehl, 1999](#))

The Harden Criteria have updated these with the following four criteria: (1) Continuing pain, which is disproportionate to any inciting event; & (2) Must report at least one symptom in three of the four following categories: (a) Sensory: Reports of hyperesthesia and/or allodynia; (b) Vasomotor: Reports of temperature asymmetry and/or skin color changes and/or skin color asymmetry; (c) Sudomotor/Edema: Reports of edema and/or sweating changes and/or sweating asymmetry; (d) Motor/Trophic: Reports of decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair, nail, skin); & (3) Must display at least one sign at time of evaluation in two or more of the following categories: (a) Sensory: Evidence of hyperalgesia (to pinprick) and/or allodynia (to light touch and/or temperature sensation and/or deep somatic pressure and/or joint movement); (b) Vasomotor: Evidence of temperature asymmetry (>1°C) and/or skin color changes and/or asymmetry; (c) Sudomotor/Edema: Evidence of edema and/or sweating changes and/or sweating asymmetry; (d) Motor/Trophic: Evidence of decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair, nail, skin); & 4. There is no other diagnosis that better explains the signs and symptoms ([Harden, 2007](#))

The Washington State Department of Labor and Industries guidelines include the presence of four of the following physical findings: (1) Vasomotor changes: temperature/color change; (2) Edema; (3) Trophic changes: skin, hair, and/or nail growth abnormalities; (4) Impaired motor function (tremor, abnormal limb positioning and/or diffuse weakness that can't be explained by neuralgic loss or musculoskeletal dysfunction); (5) Hyperpathia/allodynia; or (6) Sudomotor changes: sweating. Diagnostic tests (only needed if four physical findings were not present): 3-phase bone scan that is abnormal in pattern characteristics for CRPS. ([Washington, 2002](#))

The State of Colorado Division of Workers' Compensation Medical Treatment Guidelines adopted the following diagnostic criteria in 2006: (1) The patient complains of pain (usually diffuse burning or aching); (2) Physical findings of at least vasomotor and/or sudomotor signs, allodynia and/or trophic findings add strength to the diagnosis; (3) At least two diagnostic testing procedures are positive and these procedures include the following: (a) Diagnostic imaging: Plain film radiography/triple phase bone scan, (b) Injections: Diagnostic sympathetic blocks, (c) Thermography: Cold water stress test/warm water stress test, or (d) Autonomic Test Battery. The authors provide the following caveat: Even the most sensitive tests can have false negatives, and the patient can still have CRPS-I, if clinical signs are strongly present. In patients with continued signs and symptoms of CRPS-I, further diagnostic testing may be appropriate. ([Colorado, 2006](#))

Other authors have questioned the usefulness of diagnostic testing over and above history and physical findings. ([Quisel, 2005](#)) ([Yung, 2003](#)) ([Perez2, 2005](#)) A negative diagnostic test should not question a clinically typical presentation of CRPS and should not delay treatment. ([Birklein, 2005](#))

CRPS, treatment	Recommended hierarchy of options as indicated below. The goal is to improve function. Multiple pathophysiological mechanisms are responsible including neuropathic (sympathetic and independently-maintained pain), and immunologic (regional inflammation and altered human leukocyte antigens). Both peripheral sensitization and central sensitization have been
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proposed. ([Ribbers, 2003](#)) ([Stanton-Hicks, 2006](#)) There are no evidence-based treatment guidelines but several groups have begun to organize treatment algorithms. Recommendations:

1. Rehabilitation: (a) Early stages: Build a therapeutic alliance. Analgesia, encouragement and education are key. Physical modalities include desensitization, isometric exercises, resisted range of motion, and stress loading. If not applied appropriately, PT can actually be detrimental. (b) Next steps: Increase flexibility with introduction of gentle active ROM and stretching (to treat accompanying myofascial pain syndrome). Other modalities may include muscle relaxants, trigger point injections and electrical stimulation (based on anecdotal evidence). Edema control may also be required (elevation, retrograde sympathetic blocks, diuretics and adrenoceptor blockers when sympathetically maintained pain-SMP is present). (c) Continued steps: Continue active ROM; stress loading; scrubbing techniques; isotonic strengthening; general aerobic conditioning; and postural normalization. (d) Final steps: Normalization of use; assessment of ergonomics, posture and modifications at home and work. In some cases increased requirements of analgesic medications, psychotherapy, invasive anesthetic techniques and SCS may be required. See [CRPS, spinal cord stimulators](#).
2. Psychological treatment: Focused on improved quality of life, development of pain coping skills, cognitive-behavioral therapy, and improving facilitation of other modalities. (a) Early stages: education. (b) Next steps: clinical psychological assessment (after 6 to 8 weeks): identification of stressors; identification of comorbid Axis I psychiatric disorders (depression, anxiety, panic and post-traumatic stress).
3. Pain management: (a) Pharmacological: antidepressants (particularly amitriptyline); anticonvulsants (particularly gabapentin); steroids; NSAIDS; opioids; calcitonin; α 1 adrenoceptor antagonists (terazosin or phenoxybenzamine). The latter class of drugs has been helpful in SMP. Clonidine has been given transdermally and epidurally. (See [CRPS, medications](#).) Bisphosphonates have some literature support in the presence of osteopenia. ([Rho, 2002](#)) (b) Minimally invasive: depends on degree of SMP, stage of rehabilitation (passive or active movement), and response to blocks. (See [CRPS, sympathetic blocks](#).) Responders to sympathetic blocks (3 to 6 blocks with concomitant PT) may be all that is required. For non-responders somatic block or epidural infusion may be required to optimize analgesia for PT. (c) More invasive: After failure of progression or partial relief, consider tunneled epidural catheters for prolonged sympathetic or somatic blocks or neurostimulation with SCS in CRPS-I and II. See [CRPS, spinal cord stimulators](#). Also consider peripheral nerve stimulation in CRPS-II and intrathecal drug delivery in patients with dystonia, failed neurostimulation, long-standing disease, multi-limb involvement and requirement of palliative care. (d) Surgical: Sympathectomy is not generally recommended, but has been considered in

patients that respond to sympathetic blocks. Pre-procedure the patient should have outcomes assessed with radiofrequency and neurolytic procedures. (See [CRPS, sympathectomy](#).) Motor Cortex Stimulation has been considered.

Outcome measures for all treatments of CRPS: Objective measures such as the McGill Pain Questionnaire-Short Form, the Pain Disability Index, the Beck Depression Inventory, Treatment Outcomes in Pain Survey, and the State Trait Anxiety Inventory. See [Psychological evaluations](#). See also [CRPS, diagnostic criteria](#); [CRPS, medications](#); [CRPS, prevention](#); [CRPS, sympathetic blocks](#); & [Sympathetically maintained pain](#) (SMP). See also [Spinal cord stimulators](#) (SCS).

The injured individual did demonstrate significant improvement with occupational therapy and then regressed with decreased frequency. The custom orthosis is a dynamic splint, which is used to provide continuous stretch to the contracted soft tissue structures. The Official Disability Guidelines do not specifically address this specific splinting technique, but it appears to fall within the recommendation of aggressive intervention. The CRPS needs to be addressed concurrently for a successful outcome as outlined above.

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

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