

# C-IRO Inc.

An Independent Review Organization  
7301 RANCH RD 620 N, STE 155-199B  
Austin, TX 78726  
Phone: (512) 772-4390  
Fax: (512) 519-7098  
Email: resolutions.manager@ciro-site.com

## NOTICE OF INDEPENDENT REVIEW DECISION

**DATE OF REVIEW:**

Sep/12/2009

**IRO CASE #:**

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

Right Stellate Ganglion Block

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

MD, Board Certified in Physical Medicine and Rehabilitation  
Board Certified in Pain Management

**REVIEW OUTCOME:**

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

Upheld (Agree)

Overturned (Disagree)

Partially Overturned (Agree in part/Disagree in part)

**INFORMATION PROVIDED TO THE IRO FOR REVIEW**

ODG Guidelines and Treatment Guidelines  
Adverse Determination Letters, 7/10/09, 8/3/09  
, MD, 7/24/09, 6/11/09  
, 5/29/09  
, 4/16/09  
, MD, 7/7/09  
, DC, 5/6/09

**PATIENT CLINICAL HISTORY SUMMARY**

This was injured on xx/xx/xx. She developed wrist pain and local tenderness, especially over the dorsum of the wrist. An MRI and MRI arthrogram showed some thinning of the central triangular fibrocartilage and trace radial ulnar effusion. There was no tear. Her EMG was normal. Her complaints are of the hand feeling cold and intermittent discoloration. Dr. wrote that "Dr. feel (sic) that it is possible that this woman has developed a regional pain syndrome." The physical examination by Mr. for Dr. wrote of guarded and reduced motion with diffuse tenderness. Dr. advised a triple bone scan to determine if there is CRPS. He specifically found no swelling, color changes or temperature differences. Dr. described point tenderness.

## **ANALYSIS AND EXPLANATION OF THE DECISION INCLUDING CLINICAL BASIS, FINDINGS AND CONCLUSIONS USED TO SUPPORT THE DECISION**

The ODG justifies the stellate block in the diagnosis and therapy for CRPS, but even here there is some concern over the evidence to support the procedure: "There is limited evidence to support this procedure, with most studies reported being case studies. The one prospective double-blind study (of CRPS) was limited to 4 subjects." In the medical records available for this review, there is no description of hyperpathia, allodynia, temperature difference or edema. In the absence of the findings supporting the diagnosis of CRPS, the reviewer cannot recommend as medically necessary the Right Stellate Ganglion Block.

### Stellate ganglion block

Recommendations are generally limited to diagnosis and therapy for CRPS. See CRPS, sympathetic and epidural blocks for specific recommendations for treatment. Detailed information about stellate ganglion blocks, thoracic sympathetic blocks, and lumbar sympathetic blocks is found in Regional sympathetic blocks.

### Regional sympathetic blocks (stellate ganglion block, thoracic sympathetic block, & lumbar sympathetic block)

Recommendations are generally limited to diagnosis and therapy for CRPS. See CRPS, sympathetic and epidural blocks for specific recommendations for treatment. Also see CRPS, diagnostic criteria; CRPS, medications; & CRPS

Stellate ganglion block (SGB) (Cervicothoracic sympathetic block): There is limited evidence to support this procedure, with most studies reported being case studies. The one prospective double-blind study (of CRPS) was limited to 4 subjects. Anatomy: Sympathetic flow to the head, neck and most of the upper extremities is derived from the upper five to seven thoracic spinal segments. The stellate ganglion is formed by a fusion of the inferior and first thoracic sympathetic ganglia in 80% of patients. In the other 20%, the first thoracic ganglion is labeled the stellate ganglion. The upper extremity may also be innervated by branches for Kuntz's nerves, which may explain inadequate relief of sympathetic related pain. Proposed Indications: This block is proposed for the diagnosis and treatment of sympathetic pain involving the face, head, neck, and upper extremities. Pain: CRPS; Herpes Zoster and post-herpetic neuralgia; Frostbite. Circulatory insufficiency: Traumatic/embolic occlusion; Post-replantation; Post-embolic vasospasm; Raynaud's disease; Vasculitis; Scleroderma. Testing for an adequate block: Adequacy of a sympathetic block should be recorded. A Horner's sign (ipsilateral ptosis, miosis, anhidrosis conjunctival engorgement, and warmth of the face) indicates a sympathetic block of the head and face. It does not indicate a sympathetic block of the upper extremity. The latter can be measured by surface temperature difference (an increase in temperature on the side of the block). Somatic block of the arm should also be ruled out (the incidence of brachial plexus nerve block is ~ 10%). Complete sympathetic blockade can be measured with the addition of tests of abolition of sweating and of the sympathogalvanic response. Documentation of motor and/or sensory block should occur. Complications: Incidental recurrent laryngeal nerve block or superior laryngeal nerve block, resulting in hoarseness and subjective shortness of breathe; Brachial plexus block; Intravascular injection; Intrathecal, subdural or epidural injection; Puncture of the pleura with pneumothorax; Bleeding and hematoma. There appears to be a positive correlation between efficacy and how soon therapy is initiated (as studied in patients with CRPS of the hand). Duration of symptoms greater than 16 weeks before the initial SGB and/or a decrease in skin perfusion of 22% between the normal and affected hands adversely affected the efficacy of SGB therapy. (Ackerman, 2006) (Sayson, 2004) (Grabow, 2005) (Colorado, 2006) (Price, 1998) (Day, 2008) (Nader, 2005) See also Stellate ganglion block.

## CRPS, diagnostic criteria

Recommend using a combination of criteria as indicated below. There are no objective gold-standard diagnostic criteria for CRPS I or II. A comparison between three sets of diagnostic criteria for CRPS I concluded that there was a substantial lack of agreement between different diagnostic sets. (Perez, 2007)

### 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)

#### B. CRPS-II (causalgia):

Nerve damage can be detected by EMG but pain is not contained to that distribution. (Stanton-Hicks, 1995) CRPS I and II appear to be clinically similar. (Bruehl, 1999) CRPS-II is defined by the IASP as: (1) The presence of continuing pain, allodynia, or hyperalgesia after a nerve injury, not necessarily limited to the distribution of the injured nerve; (2) Evidence at some time of edema, changes in skin blood flow, and/or abnormal sudomotor activity in the region of pain; & (3) The diagnosis is excluded by the existence of conditions that would otherwise account for the degree of pain and dysfunction. The state of Colorado also uses the above criteria but adds that there must be documentation of peripheral nerve injury with pain initially in the distribution of the injured nerve. (Colorado, 2006)

#### C. Differential Diagnoses of CRPS

These need to include local pathology, peripheral neuropathies, infectious processes, inflammatory and vascular disorders. (Quisel2, 2005) (Stanton-Hicks, 2006) Also include the following conditions: pain dysfunction syndrome; cumulative trauma syndrome; repetitive strain syndrome; overuse syndrome; tennis elbow; shoulder-hand syndrome; nonspecific thoracic outlet syndrome; fibromyalgia; posttraumatic vasoconstriction; undetected fracture; post-herpetic neuralgia; diabetic neuropathy. (Stanton-Hicks, 2004) Others have suggested that likely differential diagnoses should include: (1) Disuse; (2) Somatoform disorder (symptoms related to psychological factors); & (3) Factitious disorder (deliberately feigning symptoms). (Barth, 2009) See also Treatment for CRPS; Sympathetically maintained pain (SMP); CRPS, medications; CRPS, prevention; CRPS, sympathetic and epidural blocks.

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

- ACOEM-AMERICA COLLEGE OF OCCUPATIONAL & ENVIRONMENTAL MEDICINE UM KNOWLEDGEBASE
- AHCPR-AGENCY FOR HEALTHCARE RESEARCH & QUALITY GUIDELINES
- DWC-DIVISION OF WORKERS COMPENSATION POLICIES OR GUIDELINES
- EUROPEAN GUIDELINES FOR MANAGEMENT OF CHRONIC LOW BACK PAIN
- INTERQUAL CRITERIA
- MEDICAL JUDGEMENT, CLINICAL EXPERIENCE AND EXPERTISE IN ACCORDANCE WITH ACCEPTED MEDICAL STANDARDS
- MERCY CENTER CONSENSUS CONFERENCE GUIDELINES
- MILLIMAN CARE GUIDELINES
- ODG-OFFICIAL DISABILITY GUIDELINES & TREATMENT GUIDELINES
- PRESSLEY REED, THE MEDICAL DISABILITY ADVISOR
- TEXAS GUIDELINES FOR CHIROPRACTIC QUALITY ASSURANCE & PRACTICE PARAMETERS
- TEXAS TACADA GUIDELINES
- TMF SCREENING CRITERIA MANUAL
- PEER REVIEWED NATIONALLY ACCEPTED MEDICAL LITERATURE (PROVIDE A DESCRIPTION)
- OTHER EVIDENCE BASED, SCIENTIFICALLY VALID, OUTCOME FOCUSED GUIDELINES (PROVIDE A DESCRIPTION)