[Date of Evaluation]

Chinweike Izeogu, M.D.
Anesthesiology & Pain Management
IME Office Location

[Carrier]

RE: CLAIMANT
DATE OF BIRTH: [DOB]
CLAIM NUMBER: [Claim Number]
DATE OF INJURY: [Date of Injury]
DATE OF EVALUATION: [Date of Evaluation]

To Whom It May Concern:

Mr. CLAIMANT was seen at your request for an Independent Pain Management Medical Evaluation on the date of evaluation, in the New Jersey office. Prior to initiating the evaluation, I explained to the claimant that our meeting was for evaluation purposes only and that I would not be rendering any treatment. In that regard, he understood that a doctor/patient relationship was not established. The specific question presented for this evaluation is whether the claimant meets diagnostic criteria for Complex Regional Pain Syndrome (CRPS) of the right upper extremity, whether such diagnosis is causally related to the workplace injury, and the medical necessity of ongoing treatment recommendations.

HISTORY & TREATMENT:

Mr. CLAIMANT is a right-handed 47-year-old male machinist who stated that he was injured at his workplace on the date of injury. He reports that his right hand was caught in industrial press machinery during a routine production task, resulting in a crush injury to the right hand. He was transported by ambulance to the emergency department on the day of the accident. Initial evaluation documented comminuted fractures of the second and third right metacarpals with significant soft tissue swelling, contusion, and abrasions. He underwent open reduction and internal fixation of the metacarpal fractures by the treating orthopedic hand surgeon approximately five days post-injury. The surgical wound healed without infection.

The claimant reports that he was initially placed in a short-arm cast post-operatively and was managed with short-course oral opioid analgesia and a non-steroidal anti-inflammatory medication. Approximately six weeks post-injury, the claimant states that he began to develop progressive worsening pain in the right hand that was qualitatively different from his post-surgical pain. He describes the pain as burning, deep, and constant, accompanied by intolerance of clothing and bedsheets touching the affected hand, changes in skin color and temperature, swelling, and

progressively decreased ability to use the right hand. He was referred to a pain management physician approximately three months post-injury.

The treating pain management physician documented a clinical diagnosis of CRPS Type I of the right upper extremity and initiated treatment including a series of three right stellate ganglion blocks, gabapentin titrated to 1800 mg daily in divided doses, and referral to occupational therapy for a desensitization protocol. The claimant reports that the sympathetic blocks produced approximately 30 to 50 percent reduction in pain lasting approximately five to seven days each. He has additionally undergone a single subanesthetic ketamine infusion with partial benefit. He has not undergone a spinal cord stimulator trial. He is currently maintained on gabapentin and continues occupational therapy.

CURRENT SYMPTOMS:

The claimant's current complaints are referable to the right upper extremity, predominantly the right hand. He reports constant burning pain, rated at 8 to 9 out of 10 at its worst and 6 out of 10 at its best on a numeric pain scale of 0 to 10. He reports sensitivity to light touch, including intolerance of clothing on the right hand and the sensation of bedsheets producing pain. He reports increased sensitivity to mild noxious stimuli. He describes changes in skin color, changes in skin temperature (the right hand feels cooler than the left), and visible swelling of the right hand and wrist. He reports decreased strength and difficulty performing fine motor tasks. He describes a tremor of the right hand at rest. He reports significant sleep disturbance due to pain. He denies cervical radicular symptoms, weakness above the wrist, or symptoms in the left upper extremity.

ALLERGIES:

No known drug allergies

MEDICATIONS:

Gabapentin 600 mg three times daily; ibuprofen 600 mg as needed; trazodone 50 mg at bedtime for sleep

PAST MEDICAL/SURGICAL HISTORY:

Hyperlipidemia, well controlled on statin therapy. The claimant denies prior CRPS or chronic pain syndrome. He denies prior significant upper extremity injury or surgery to the right or left side. He denies prior cervical spine injury, prior radiculopathy, or prior brachial plexus pathology. He denies diabetes mellitus, peripheral vascular disease, prior stroke, or other condition associated with neuropathic pain. Status post open reduction and internal fixation of right second and third metacarpal fractures following the workplace injury.

SOCIAL HISTORY:

He denies a history of smoking. He reports occasional use of alcoholic beverages, approximately one to two drinks per week. He denies recreational drug use. He is married with two children.

EMPLOYMENT HISTORY:

Mr. CLAIMANT has been employed as a machinist for approximately eighteen years with his current employer. He has been out of work since the date of injury. He reports that he is unable to perform the essential functions of his usual occupation in his current condition.

PHYSICAL EXAMINATION:

A photo ID was used for identification purposes.

The examination demonstrated a male who was alert and well oriented to time and place. He ambulated without assistive device and with a normal gait. He held his right upper extremity in a protected position against his trunk throughout the encounter and used the left hand exclusively for tasks during the interview, including signing the consent form. He presented as cooperative and was in moderate distress related to right upper extremity pain.

Inspection of the right upper extremity demonstrated visible swelling of the dorsum of the right hand and the dorsal aspect of the wrist when compared with the left. The skin of the right hand appeared mottled with areas of dusky discoloration and erythema, in contrast to the normal skin color of the left hand. The right palmar surface appeared moist with visible hyperhidrosis. Nail bed changes were noted on the right with mild ridging of fingernails II through V; nail bed changes on the left were absent. Hair pattern over the dorsum of the right hand was decreased in density compared with the left. The skin of the right hand had a shiny appearance. Surgical scars from the prior ORIF were well healed without keloid or active inflammation.

CRPS DIAGNOSTIC EXAMINATION — BUDAPEST CRITERIA:

Sensory domain. Allodynia testing was performed using calibrated Von Frey monofilaments. The threshold for pain on the dorsum of the right hand was 3.84 grams, compared with 75 grams (no pain response) on the dorsum of the left hand at the corresponding site. Hyperalgesia to pinprick was assessed with a sterile single-use neurological pin; the claimant reported pain rated 8 out of 10 on the right hand and 2 out of 10 on the left. Both static allodynia (light pressure of cotton swab) and dynamic allodynia (light stroking) were reproducibly positive on the right and absent on the left.

Vasomotor domain. Skin temperature was measured at multiple sites using a calibrated infrared thermometer. Right hand dorsum measured 31.5 degrees Celsius; left hand dorsum measured 35.4 degrees Celsius; temperature asymmetry of 3.9 degrees Celsius. Visible color asymmetry was documented with the right hand demonstrating areas of duskiness and mottled erythema in contrast to the normal coloration of the left hand. Color change was reproducible with positional dependency.

Sudomotor and edema domain. Visible edema of the right dorsum was documented and was reproducible on inspection. Circumferential measurements were obtained at the

metacarpophalangeal level: right 21.5 centimeters versus left 19.0 centimeters. Tissue bogginess was appreciated on palpation of the right dorsum but not the left. Hyperhidrosis of the right palm was observed during the examination without exertion or thermal challenge.

Motor and trophic domain. Grip strength was measured by dynamometry using three trials averaged: right 8 pounds, left 75 pounds, representing approximately a 90 percent deficit on the affected side. Fine motor coordination was decreased on the right with difficulty performing a precision pinch task. A low-amplitude postural tremor of the right hand was observed when the claimant was asked to extend his right upper extremity. Range of motion of the right wrist demonstrated flexion to 30 degrees (normal 80 degrees) and extension to 20 degrees (normal 70 degrees), all with pain at end range. Range of motion of the right metacarpophalangeal joints was decreased symmetrically across digits II through V, with active flexion to approximately 45 degrees (normal 90 degrees). The previously described trophic changes — nail ridging, decreased hair pattern, and shiny skin appearance — were documented as objective findings in this domain.

All four Budapest Criteria sign domains demonstrated objective findings on examination.

Remainder of upper extremity examination. The right shoulder, elbow, and proximal forearm demonstrated full and pain-free range of motion. Strength testing proximal to the wrist demonstrated 5/5 motor strength at the C5/deltoid, C6/biceps, C6/wrist extensors, C7/triceps, C7/wrist flexors, and C8/finger flexors levels bilaterally — recognizing that motor testing of the right hand intrinsic muscles was limited by pain and the trophic findings described above. Deep tendon reflexes were 2+ and symmetric at the biceps, brachioradialis, and triceps bilaterally. Hoffman's sign was negative bilaterally. The cervical spine examination demonstrated full range of motion without midline or paraspinal tenderness, and Spurling's test was negative bilaterally, with no clinical evidence of cervical radiculopathy. Vascular examination demonstrated 2+ symmetric radial pulses bilaterally without bruit or asymmetric capillary refill at the nailbed apart from the trophic changes described.

MEDICAL RECORD REVIEW:

1. First Report of Injury – [Date]
2. JOHN DOE, MD – Emergency Department Progress Notes – [Date]
3. Right hand radiographs – [Date] (Radiology Facility, read by JOHN DOE, MD)
4. JOHN DOE, MD – Operative Report, ORIF Right Metacarpals – [Date]
5. JOHN DOE, MD – Post-Operative Orthopedic Hand Surgery Follow-Up Notes – [Multiple Dates]
6. JOHN DOE, MD – Pain Management Initial Evaluation – [Date]
7. JOHN DOE, MD – Pain Management Follow-Up Notes – [Multiple Dates]
8. JOHN DOE, MD – Stellate Ganglion Block Procedure Notes (×3) – [Multiple Dates]
9. JOHN DOE, MD – Ketamine Infusion Procedure Note – [Date]
10. Occupational Therapy Progress Notes – [Multiple Dates]

IMPRESSION:

1. Complex Regional Pain Syndrome (CRPS) Type I of the right upper extremity
2. Status post crush injury and open reduction and internal fixation of right second and third metacarpal fractures.
3. Significant functional impairment of the right dominant upper extremity.

DISCUSSION:

This evaluation was requested to address whether the claimant meets diagnostic criteria for Complex Regional Pain Syndrome of the right upper extremity, whether such diagnosis is causally related to the workplace crush injury, and the medical necessity of ongoing treatment. Based on my examination, my review of the submitted medical records, and the application of the prevailing diagnostic standard, I am of the opinion to a reasonable degree of medical certainty that the claimant meets diagnostic criteria for CRPS Type I of the right upper extremity and that the diagnosis is causally related to the workplace injury.

Diagnostic framework. The prevailing diagnostic standard for Complex Regional Pain Syndrome is the Budapest Criteria, formally adopted by the International Association for the Study of Pain in 2012. The criteria require: (1) continuing pain disproportionate to any inciting event; (2) at least one symptom reported in three of four categories (sensory, vasomotor, sudomotor/edema, motor/trophic); (3) at least one sign demonstrated on examination in two or more of the same four categories; and (4) no other diagnosis that better explains the signs and symptoms. The Budapest Criteria represent the standard against which clinical and forensic CRPS diagnoses are evaluated.

Application of the Budapest Criteria to the present matter. The first criterion is satisfied. The claimant reports continuing pain in the right upper extremity rated at 6 to 9 out of 10, persisting more than nine months post-injury. The character of the pain — constant burning quality with associated allodynia and hyperalgesia — is qualitatively distinct from and disproportionate to the expected post-surgical pain trajectory following uncomplicated metacarpal ORIF.

The second criterion is satisfied. The claimant reports symptoms in all four Budapest categories: burning pain and intolerance of light touch (sensory); color and temperature changes (vasomotor); swelling and sweating differences (sudomotor/edema); and weakness, restricted range of motion, and tremor (motor/trophic). Three of four are required; four of four are present.

The third criterion is satisfied. On examination today, objective signs were documented in all four Budapest categories. Sensory: allodynia to Von Frey monofilament testing at a threshold of 3.84 grams on the right versus 75 grams on the left, with hyperalgesia to pinprick documented. Vasomotor: skin temperature asymmetry of 3.9 degrees Celsius measured by infrared thermometry, with visible color asymmetry. Sudomotor/edema: visible edema with a 2.5 centimeter circumferential difference at the metacarpophalangeal level, with hyperhidrosis of the right palm observed. Motor/trophic: 90 percent grip strength deficit measured by dynamometry,

postural tremor, decreased range of motion at the right wrist and metacarpophalangeal joints, and trophic changes including nail ridging, decreased hair pattern, and shiny skin appearance. Two of four are required; four of four are present.

The fourth criterion is satisfied. Alternative diagnoses were specifically considered and excluded. Cervical radiculopathy was excluded by intact cervical range of motion, negative Spurling's test, intact upper extremity motor strength proximal to the wrist with the limitations described, and the regional rather than dermatomal distribution of findings. Brachial plexus injury was excluded by the absence of findings consistent with brachial plexopathy in proximal motor or sensory examination. Peripheral nerve entrapment of the median, ulnar, or radial nerve was excluded by the distribution of findings, which involves the entire hand rather than a single peripheral nerve territory. Vascular pathology including deep venous thrombosis and arterial insufficiency was excluded by normal vascular examination and the absence of asymmetric pulses or vascular risk factors. Cellulitis and infection were excluded by the chronic timeline, absence of systemic signs, and absence of an acute inflammatory pattern. Compartment syndrome was excluded by the chronic timeline and absence of the five Ps. Malingering and somatic symptom disorder were considered; however, the presence of objective signs across multiple Budapest domains, including measurable temperature asymmetry, measurable strength deficit, measurable circumferential edema, and reproducible trophic findings, is inconsistent with a primarily volitional or non-organic presentation. No diagnosis better explains the constellation of findings.

All four Budapest prongs are satisfied. The diagnosis of CRPS Type I of the right upper extremity is supported under the prevailing diagnostic standard.

Causation analysis. The claimant has no documented history of CRPS or chronic pain syndrome prior to the workplace injury. He has no history of significant prior right upper extremity injury or surgery. He has no comorbidities — such as diabetes mellitus, peripheral vascular disease, or prior stroke — that would predispose to a constitutional regional pain syndrome unrelated to acute trauma. The mechanism of injury — a crush injury to the right hand with comminuted metacarpal fractures requiring operative fixation — is a recognized inciting event for CRPS Type I. The onset of CRPS symptoms approximately six weeks post-injury is consistent with the established temporal pattern of post-traumatic CRPS, which typically develops within weeks to months of the inciting event. The anatomic distribution of the CRPS findings — the right upper extremity — is anatomically congruent with the site of injury. The diagnosis of CRPS Type I is causally related to the workplace injury and is not attributable to any pre-existing or constitutional condition. Apportionment to any pre-existing pathology is not supported.

Treatment course and ongoing necessity. The treating pain management physician has appropriately initiated guideline-concordant care including a series of three right stellate ganglion blocks, gabapentin at therapeutic dose, and occupational therapy for desensitization. The claimant's reported partial response to sympathetic blockade — approximately 30 to 50 percent pain

reduction with each block — is consistent with sympathetically maintained pain and supports the CRPS diagnosis. The single subanesthetic ketamine infusion with partial benefit is consistent with established evidence-based interventions for CRPS. The ongoing occupational therapy with desensitization is medically necessary and consistent with current standards of care.

Continued pain management treatment is medically necessary and causally related to the workplace injury. Specific recommendations include: continuation of gabapentin or transition to pregabalin as clinically indicated; continued occupational therapy with progressive desensitization and graded motor imagery; consideration of additional stellate ganglion blocks based on response duration; and evaluation for spinal cord stimulator candidacy. The claimant's documented partial response to sympathetic blockade and his failure to achieve durable relief with conservative measures alone place him within the established candidacy framework for spinal cord stimulator trial; this should be considered in consultation with the treating pain management physician and following any required psychological evaluation per device labeling and payer policy.

Functional status and return-to-work analysis. The claimant performs the essential functions of a machinist position, which requires bilateral dexterity, fine motor control, grip strength, and the safe operation of industrial machinery. His documented 90 percent deficit in right hand grip strength, decreased fine motor coordination, postural tremor, restricted range of motion, and severe pain with use of the affected hand render him unable to perform the essential functions of his usual occupation. A formal functional capacity evaluation is recommended to characterize current work tolerance and to identify any modified-duty positions that may be appropriate during ongoing treatment. Vocational rehabilitation services should be considered if return to the usual occupation is not feasible following maximum medical improvement.

Maximum medical improvement. The claimant has not reached maximum medical improvement. He remains in active treatment with documented partial response to sympathetic blockade and ongoing occupational therapy participation, and he is appropriately under consideration for additional interventions including possible spinal cord stimulator trial. Reassessment for maximum medical improvement should be deferred until completion of the recommended additional interventions and a period of clinical stability.

Diagnostic studies and additional testing. The diagnostic studies performed during the course of treatment were medically necessary and consistent with evidence-based clinical guidelines. No additional imaging is medically necessary at this time. Three-phase bone scintigraphy may be considered if there is a future need for additional diagnostic support, although the diagnosis of CRPS is established clinically under the Budapest Criteria and bone scan findings are supplementary rather than required. Electrodiagnostic testing is not currently indicated given the absence of clinical findings suggestive of peripheral nerve injury or radiculopathy.

Durable medical equipment and adjunctive interventions. A custom-fit splint for desensitization and joint protection during sleep is medically necessary. TENS therapy is reasonable as adjunctive

home management. Mirror visual feedback therapy as part of the occupational therapy program is supported by current literature.

Apportionment summary. The diagnosis of CRPS Type I of the right upper extremity is 100 percent causally related to the workplace injury of the date of injury. No pre-existing pathology contributes to the current presentation.

The claimant left the room in the same condition in which he arrived with no complaints or apparent signs of dissatisfaction regarding this examination.

The above opinions are based on my experience as an actively practicing Pain Management and Anesthesiology physician with subspecialty expertise in Complex Regional Pain Syndrome, in combination with the history provided by the claimant, the medical records reviewed, the physical examination performed, and the application of the Budapest Criteria as the prevailing diagnostic standard for CRPS. The opinions are consistent with standards of care as documented by guidelines published by the International Association for the Study of Pain and the American Society of Interventional Pain Physicians.

All these questions have been answered to a reasonable degree of medical certainty.

Chinweike Izeogu

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Chinweike Izeogu, MD
Anesthesiology & Pain Management