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## The Expert Witness and Complex Regional Pain Syndrome

Complex Regional Pain Syndrome (CRPS) is the great imitator<sup>1,2</sup>. The current medical literature is clear that severe CRPS, particularly CRPS that has been present for several years, is a systemic disease which can manifest in literally any organ system throughout the body. In fact, there is not a single organ system that is known to be immune from the spread of CRPS. Not uncommonly, CRPS can spread from one limb to another and from one organ system to another through interactions between the somatic and sympathetic nervous systems.

CRPS litigation is complicated often hinging on intricate details of the patient's / claimant's subjective complaints and their interplay with the objective findings on physical exam. How does the expert witness who is called upon to differentiate what symptoms are and what symptoms are not related to CRPS render an opinion to a reasonable degree of medical certainty?

Before such a determination can be made, a step back must be taken to ascertain does the patient / claimant actually have CRPS. Once a diagnosis of CRPS has been made to a reasonable degree of medical certainty, then a discussion regarding specific symptomatology can be entertained.

A diagnosis of Complex Regional Pain Syndrome requires the rigorous application of the Budapest Criteria. These criteria are widely used throughout the practice of pain medicine and represent the current standard of care in the diagnosis of Complex Regional Pain Syndrome. The criteria are a validated, statistically derived combination of symptoms and signs. Symptoms are those features as reported and described by the patient, while signs are physical exam observations that are noted by the clinician at the time of the examination.

The Budapest Criteria necessitate that all 4 criteria as outlined below are satisfied in order to conclude that a patient has Complex Regional Pain Syndrome. If the patient fails to satisfy one criteria, there is no need to further apply any of the other criteria as a diagnosis of Complex Regional Pain Syndrome cannot be made if any one of the 4 criteria is not satisfied.

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 hyperalgesia 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 the 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 deep somatic pressure and/or joint movement)
  - b. Vasomotor: Evidence of temperature asymmetry 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

The expert witness is often thrust into the position of rendering an objective opinion without having the opportunity or ability to interview or physically examine the patient / claimant. While this may seem on the face of it like a distinct disadvantage in being able to render an opinion, one must keep in mind that the expert witness has the advantage of reviewing the totality of the medical records over the duration of the illness to fully assess for consistency in complaints, consistency in exam findings across providers and reviewing the totality of the diagnostic testing. This is in contradistinction to the treating physician who, generally, is only able to review the contemporaneous medical records and testing. Rarely, as a treating physician, is one privy to the totality of the medical records regarding the patient / claimant. Therefore, the expert witness, albeit, without the ability to examine the patient / claimant, is often in a privileged position to digest the entirety of the records and algorithmically apply each step of the Budapest criteria.

Once a firm diagnosis of CRPS is established, in order to determine what is and is not related to CRPS, a systematic review of pre-CRPS complaints vs. post-CRPS complaints must be made. Since CRPS can mimic many disease states, the expert witness must rigorously analyze each complaint to ensure, as with the Budapest criteria, that no other diagnosis better explains the signs and symptoms. For example, if the patient / claimant had pre-existing diabetes with evidence of peripheral neuropathy in the feet prior to the diagnosis of CRPS in the left upper extremity, then, a post-CRPS suggestion that the patient's / claimant's bilateral lower extremity numbness, tingling, weakness, and allodynia is evidence of spreading of CRPS from the left upper extremity is, to a reasonable degree of medical certainty, not likely. The lower extremity complaints have a better explanation and substantiated evidence in the diagnosis of diabetes

than in the attribution to CRPS. While this analysis may seem simplistic in the example provided for review, as noted, CRPS litigation can be complex, contentious and multifaceted often taking several years to resolve. During that time, patients / claimants may develop new complaints and new symptoms. As an expert witness, having a firm grasp of the diagnostic criteria, coupled with a rigorous, algorithmic, objective approach, will ensure that opinions rendered are reliable and held to the appropriate standard of a reasonable degree of medical certainty.

Dr. Carinci is Chief of the Pain Management Division and Director of the Pain Treatment Center at the University of Rochester Medical Center and an Associate Professor at the University of Rochester School of Medicine. Dr. Carinci has been involved in over 25 cases specifically involving CRPS as an expert witness for both plaintiff and defense. He has qualified as an expert witness in federal court. Dr. Carinci has evaluated, diagnosed and treated over 100 patients with Complex Regional Pain Syndrome. Dr. Carinci has evaluated such patients in multiple scenarios; in clinical practice as a treating attending physician, as an independent medical examine physician and as an expert witness. In addition, Dr. Carinci has published and spoke nationally on the topic of CRPS.

References:

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