

## HAND THERAPY GUIDELINES

## Complex Regional Pain Syndrome (CRPS)

(These guidelines are based on the Royal College of Physicians – Complex Regional Pain Syndrome in Adults. UK guidelines for diagnosis, referral and management in primary and secondary care – May 2012).

## Introduction

CRPS is a debilitating, painful condition in a limb, associated with sensory, motor, autonomic, skin and bone abnormalities. CRPS commonly arrives after injury to a limb. However there is no relationship in the severity of trauma and in some cases there is no precipitating trauma at all. CRPS usually affects one limb. The cause of CRPS is unknown. Characteristically there is interplay between peripheral and central pathophysiologies. Evidence suggests that transient CRPS is common after limb fractures and orthopaedic operations (up to 25%). The pain improves in most cases and CRPS lasting longer than a few months is an uncommon condition, although even a transient episode of CRPS may give rise to long-term disability due to structural and/or functional changes.

## Diagnosis

Prompt diagnosis and early treatment are considered best practice in order to avoid secondary physical problems associated with disuse of the affected limb and the psychological consequences of living with undiagnosed chronic pain. The diagnosis of CRPS is based on clinical examination and is given when patients meet the 'Budapest' diagnostic criteria (Table 1).

## Budapest CRPS Diagnostic Criteria

**Table 1 Diagnostic criteria for CRPS ('Budapest criteria') (A-D must apply)**

- |  |                          |
|--|--------------------------|
| A) The patient has continuing pain which is disproportionate to any inciting event | <input type="checkbox"/> |
| B) The patient has at least one sign in two or more of the categories              | <input type="checkbox"/> |
| C) The patient reports at least one symptom in three or more of the categories     | <input type="checkbox"/> |
| D) No other diagnosis can better explain the signs and symptoms                    | <input type="checkbox"/> |

Category patient		Sign (you can see or feel a problem)	Symptom (the reports a problem)
1. 'Sensory'	Allodynia (to light touch and/or temperature sensation deep somatic pressure and/or joint movement) and /or hyperalgesia (to pinprick)	<input type="checkbox"/>	Hyperesthesia does also qualify as a symptom <input type="checkbox"/>
2. 'Vasomotor'	Temperature asymmetry and/or skin colour changes and/or skin colour asymmetry	<input type="checkbox"/>	<input type="checkbox"/>
3. 'Sudomotor/oedema'	Oedema and/or sweating changes and/or sweating asymmetry	<input type="checkbox"/>	<input type="checkbox"/>
4. 'Motor/trophic'	Decreased range of motion and/or motor dysfunction (weakness, tremor, dystonia) and/or trophic changes (hair/nail/skin)	<input type="checkbox"/>	<input type="checkbox"/>

(There are also the Atkins and Veldman diagnostic criteria for CRPS which are often used in an orthopaedic setting)  
See appendix 1

CRPS can be divided into two types based on the absence (type 1, much more common) or presence (type 2) of a lesion to a major nerve.

### **Treatment Approach**

An integrated interdisciplinary treatment approach is recommended tailored to the individual patient.

The primary aims are:

- To Reduce pain
- To Preserve or Restore Function
- To enable patients to manage their condition and improve their quality of life

The four pillars of care which address these aims have equal importance:

- Education
- Pain Relief
- Physical Rehabilitation
- Psychological Intervention

### **Treatment/Management**

Assessment should measure change in signs and symptoms and the functional consequences of these.

Assessments should cover the following:

- Pain
- Sensation
- Swelling
- Movement
- Function
- Body Perception Disturbance

Additional sign/symptoms that can be monitored include:

- Skin Temperature/colour
- Hair/Nail Growth

Assessment of change should be ongoing with outcome measures completed at baseline and on completion of treatment.

### **Mild CRPS Signs and Symptoms**

A patient would have few signs of significant pain related disability or distress and either conventional or neuropathic drugs would manage the pain intensity adequately. Initiate treatment as soon as possible.

### **Moderate to Severe CRPS Signs and Symptoms**

Consider referral to a pain clinic or CRPS specialist treatment unit, but after referral continue treatment until patient is seen.

### **Treatment May Include**

- Patient Education
- Desensitisation
- General Exercises and Strengthening
- Oedema Control
- Splinting
- Functional Activities
- Mirror Visual Feedback
- Graded Motor Imagery
- Strategies to correct Body Perception Disturbances
- Stress Loading

**For best practice therapists would:**

- Be aware of CRPS and be able to recognise the clinical signs
- Be aware of the Budapest criteria for diagnosing CRPS
- Initiate treatment as early as possible
- Provide patient education about the condition
- Know the nearest multidisciplinary pain clinic or CRPS specialist rehabilitation centre
- Recognise non-resolving moderate or severe symptoms and where appropriate initiate referral a multidisciplinary pain clinic or CRPS specialist centre for rehabilitation

**Useful Outcome Measures:**

*DASH (Disabilities of the Arm, Shoulder and Hand)*

**References:**

*Royal College of Physicians (2012) Complex Regional Pain Syndrome in Adults. UK Guidelines for Diagnosis, Referral and Management in Primary and Secondary Care.*

## **Appendix 1 Atkins and Veldman diagnostic criteria for CRPS in an orthopaedic setting**

### **Veldman criteria**

1. The patient presents with four or five of the following symptoms:
  - unexplained diffuse pain
  - difference in skin colour relative to other limb
  - diffuse oedema
  - difference in skin temperature relative to other limb
  - limited active range of motion
2. There is occurrence or increase of above signs and symptoms after use
3. Above signs and symptoms present in an area larger than the area of primary injury or operation and including the area distal to the primary injury

### **Atkins criteria**

The diagnosis made clinically by the finding of the following associated sets of abnormalities:

1. neuropathic pain: nondermatomal, without cause, burning, with associated allodynia and hyperpathia
2. vasomotor instability and abnormalities of sweating: warm red and dry, cool blue and clammy or an increase in temperature sensitivity: associated with an abnormal temperature difference between the limbs
3. swelling
4. loss of joint mobility with associated joint and soft-tissue contracture, including skin thinning and hair and nail dystrophy

The diagnosis is excluded by the existence of conditions that would otherwise account for the degree of dysfunction.

### **Contact:**

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