

## Chronic Regional Pain Syndrome **With Paul Browning**

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### About Paul Browning

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Previous background in chemistry and biochemistry.

### General Information

CRPS is a rare condition.

Epidemiology: 25 in 100,000.

Gender: 2/3:1 Women: Men.

Age: 50-70 most likely.

Possible genetic link- lack of numbers to properly suggest.

Minor trauma, including surgery, can cause it.

It is usually time-limited- various treatments make a difference in a range of cases.

### Normal Presentation:

Distal portion of upper or lower limbs.

Not usually in the neck, shoulders or hips.

Within 4 -8 weeks of the initial causative event.

### Symptoms and Diagnosis

No true biomechanical medical markers for a diagnosis

Diagnostic classifications from The International Association for the Study of Pain  
diagnostic criteria for CRPS are called The Budapest Criteria.

Click here for the diagnostic criteria:

[CRPS Budapest Summary 1](#)

[CRPS Budapest Summary 2](#)

### Pathogenesis

The processes that limit inflammation become inhibited & pro-inflammatory processes become facilitated.

The axon reflex (part of the normal inflammatory response to trauma) is stimulated.

The chemicals involved increase hyperalgesia and allodynia.

The same chemicals help with tissue repair, which can lead to: oedema, colour and skin changes including nail changes.

Characteristics of either peripheral phenotype or central phenotype.

### Treatment

Multi-disciplinary approach recommended with four pillars:

Psychology  
Rehabilitation (Physical and Vocational)  
Education  
Pain relief

The evidence base for the treatments is pretty small due to a lack of research.

Evidence-based practice can be collected from best level of evidence available from research, from clinicians, from best practice as well as what the patients actually wants.

#### Physical therapy

Sensory motor retraining: Laterality recognition (e.g. mirror box therapy), graded motor imagery (imagined movements). Laterality recognition is not as effective when testing dyslexic people.

Improve movement control

Improve muscle strength

Treating areas away from the symptoms that might be able to cause neurological symptoms (e.g: treating the thoracic outlet area if the pain symptoms are in the hand)

Hydrotherapy: particularly useful for lower limb CRPS

In severe cases, daily components of therapy could be in place.

Moderate and severe patients should be seen in a multi-disciplinary manner.

#### Psychology

##### CBT

Pacing - preventing patients doing too much too soon.

Graded exposure: Visual input very important in the early stages of the rehab – worse cases get the patient to look at practitioner's hands instead of own hands initially. Jenssen 2012 and Semnevich – research into CBT and pain.

#### Other treatments:

Rhythmic Movement: No knowledge of this therapy being used to treat CRPS.

Acupuncture: No needles in the affected limbs. New study has used this alongside laterality recognition to good effect (Not a stand-alone treatment).

#### Vocational:

Occupational therapy

Functional neuro-rehabilitation for daily living

Implementing into daily life.

#### Education

(To the) Patient:

Key component in pain management

Pain mechanisms

Find different ways of conveying the information so they can understand what is happening in their body.

Helps them understand the self-help strategies

A lot of research is taking place in Australia with patients.

Various Centres are available for research into CRPS which patients could potentially help with.

Practitioner:

Psychological Therapists and CRPS, Use of TENS courses run at University of Hertfordshire.

Courses about graded motor imagery run by the Neuro-Orthopaedic Institute.

Not geared to CRPS exclusively but an important part of the process.  
An interesting study could look into whether a combination of Vitamins A, C and E would reduce the prevalence of CRPS even more than just Vitamin C.

#### Pain Relief

Amytriptyline

Nortriptyline

Anti-epileptics: gabapentin, pregabalin

Sympathetic blocks can make it worse

#### What to watch out for in the early stages:

History of trauma (including surgery)

Female (in particular)

50s/60s

May or may not have true neuropathic pain (crawling, burning, with a mind of its own)

Possibly skin discoloration in the area (mild redness).

Often glove-like distribution that is unrelated to any particular nerve root.

Allodynia.

Hyperalgesia to pin prick.

If you suspect early stages of CRPS (prevention is key!):

1 gram of Vitamin C a day (a free-radical 'quencher') for 45 - 50 days can reduce the prevalence of CRPS by about 80%

Minimal cost.

Available over the counter.

Vitamin C has an anti-oxidant effect.

Recommended to anybody that has had an upper or lower-limb trauma.

Deal with minor compressions and elongations before CRPS can develop.

Refer to GP (normal route) or A&E in severe cases with a letter.

#### Sleep

Links found between reduced memory from lack of sleep

Links found between inflammation and depression

Pain upon waking can be the last clinical feature to disappear

Mood changes can be seen once inflammation has reduced – research showing that allowing tissue repair to occur, inflammation to decrease and pain will decrease.

Combination of the multi-disciplinary treatment facilitates the improvement of sleep.

#### Links

Guidelines published for GPs in 2012 including guidelines to patients on what to communicate with their GP. <https://crpsukdotcom.files.wordpress.com/2012/06/crps-guideline-may-2012.pdf>

Examination: <http://www.iasp-pain.org/Education/Content.aspx?ItemNumber=3546>

Royal College of Physicians Guidelines:

<https://www.rcplondon.ac.uk/sites/default/files/documents/complex-regional-pain-full-guideline.pdf>

More info about pain:

<http://www.iasp-pain.org/Education/Content.aspx?ItemNumber=3553>

### Further Study

Graded Motor Imagery: <http://www.noigroup.com/en/Home> (book: <http://www.noigroup.com/en/Store>)

Not exclusively linked to CRPS but an important part of the process.  
Psychological Therapies for the Management of Pain and CRPS, Use of TENS courses run at University of Hertfordshire.

An interesting study could look into whether a combination of Vitamins A, C and E would reduce the prevalence of CRPS even more than just Vitamin C.

### **Test**

What skin signs are you likely to see initially in CRPS?

Syanosis

Itching

Discolouration - yes

Swelling - yes

Bruising

Heat - yes

What supplements are recommended in the early stages of CRPS?

Vitamin C

Vitamin E

Glucosamine

Magnesium

What is the epidemiology of CRPS?

Women - yes

Men

Teenagers

50s-70s - yes

Previous diagnosis of hypermobility- not come up in the epidemiology of CRPS. Previous traumatic injury – yes