



# Body perception disturbances: Assessment and treatment

Jenny Lewis PhD, MSc, Dip COT

Senior Clinical Research Occupational Therapist

The Royal National Hospital for Rheumatic Diseases, Bath

# Assessment of body perception disturbance

## General screening

### 1) Targeted questioning

- emotions
- sense of belonging
- perceived size

### 2) Simple observation Positioning of limb, posture



## Detailed assessments

Modified Galer and Jensen neglect score

Bath CRPS body perception disturbance scale

# Modified Galer and Jensen neglect score

## Galer and Jensen

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Item 1: If I don't focus my attention on my painful limb it would lie still, like dead weight.

Item 2: My painful limb feels as though it is not part of the rest of my body.

Item 3: I need to focus all of my attention on my painful limb to make it move the way I want it to.

Item 4: My painful limb sometimes moves involuntarily, without my control.

Item 5: My painful limb feels dead to me.

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1

**Never**

6

**Always**

# THE BATH CRPS BODY PERCEPTION DISTURBANCE SCALE

1) On a scale of 0-10 how much a part of your body does the affected part feel?

Very much a part = 0\_\_1\_\_2\_\_3\_\_4\_\_5\_\_6\_\_7\_\_8\_\_9\_\_10 = Completely detached

2) On a scale of 0-10 how aware are you of the physical position of your limb?

Very aware = 0\_\_1\_\_2\_\_3\_\_4\_\_5\_\_6\_\_7\_\_8\_\_9\_\_10 = Completely unaware

3) On a scale of 0-10 how much attention do you pay to your limb in terms of looking at it and thinking about it?

Full attention = 0\_\_1\_\_2\_\_3\_\_4\_\_5\_\_6\_\_7\_\_8\_\_9\_\_10 = No attention

4) On a scale of 0-10 how strong are the emotional feelings that you have about your limb?

Strongly positive = 0\_\_1\_\_2\_\_3\_\_4\_\_5\_\_6\_\_7\_\_8\_\_9\_\_10 = Strongly negative

5) Is there a difference between how your affected limb looks or is on touch compared to how it feels to you in terms of the following:

Size            yes  no             Comment.....

Temperature    yes  no             Comment .....

Pressure        yes  no             Comment.....

Weight          yes  no             Comment.....

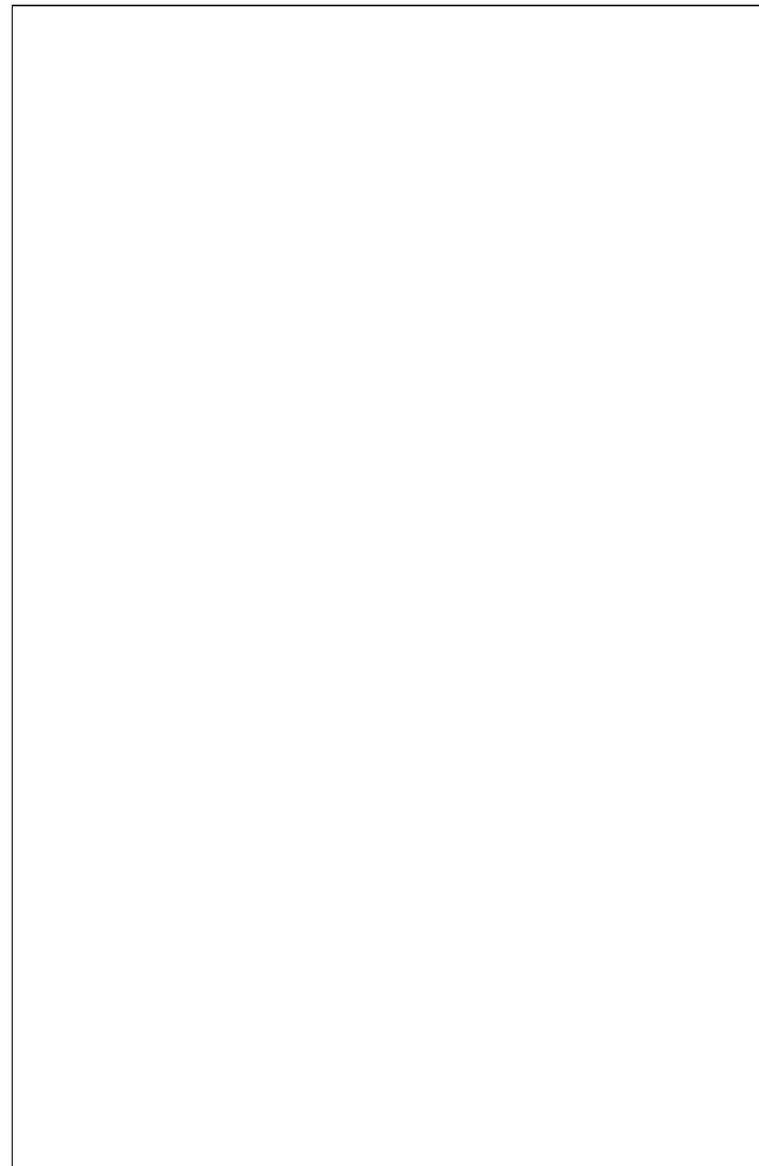
6a) Have you ever had a desire to amputate the limb?    Yes     No

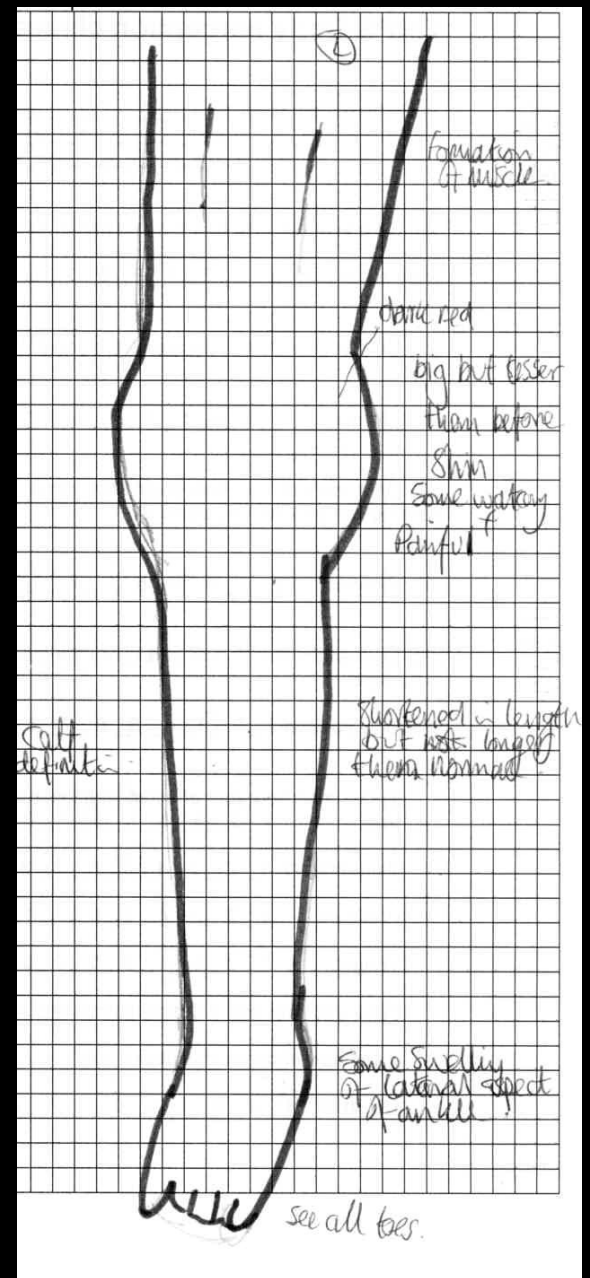
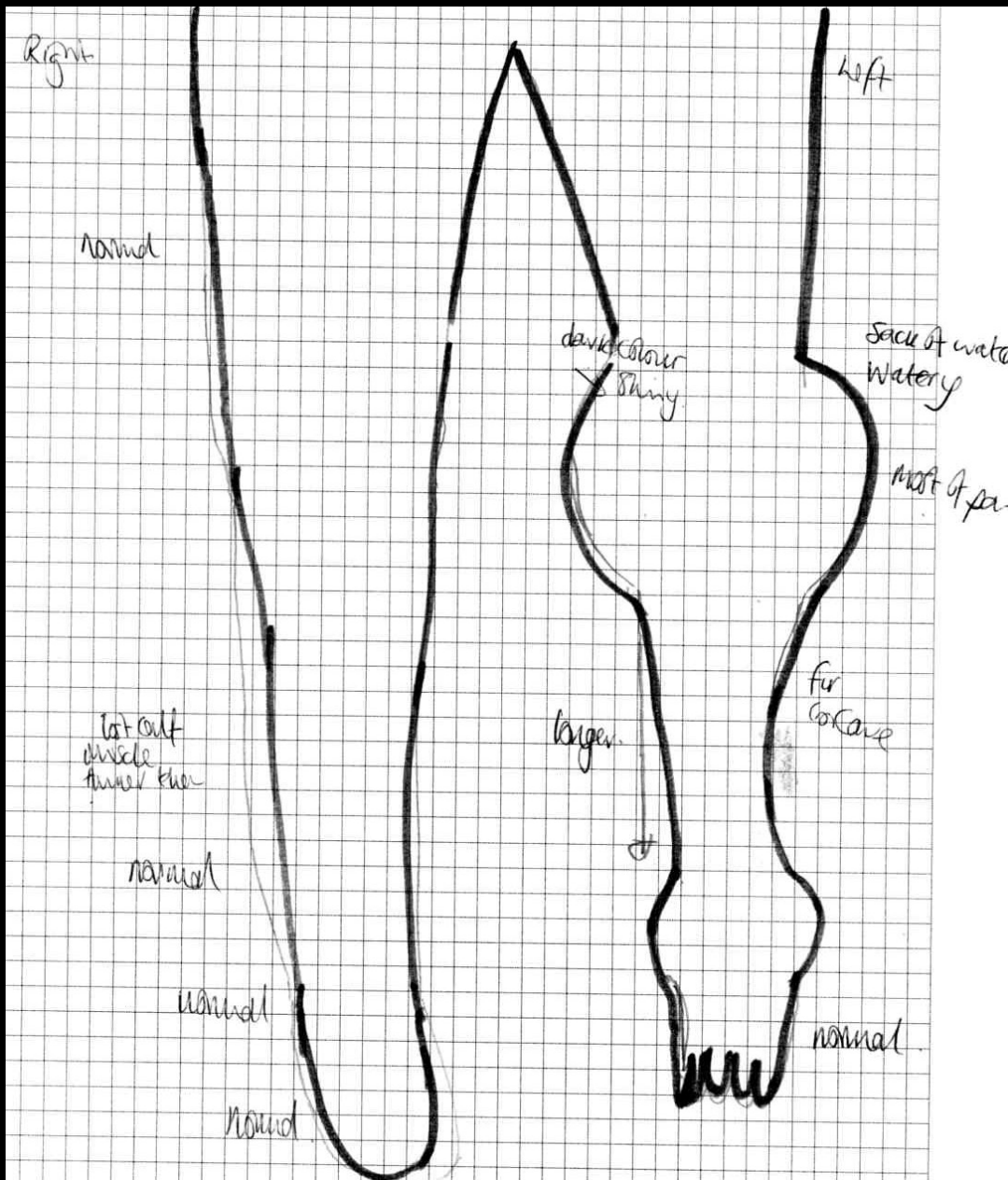
6b) If yes, how strong is that desire now?

Not at all = 0\_\_1\_\_2\_\_3\_\_4\_\_5\_\_6\_\_7\_\_8\_\_9\_\_10 = Very strong

Desired amputation site.....

7) With eyes closed describe a mental image of your affected and unaffected body parts  
(drawn by assessor during patient description then verified by the patient)





Baseline mental representation of affected left leg

# Treatment

**Aim: To perceive the limb in a more normal manner**

**Guiding principles**



# UK Clinical guidelines for CRPS

Free download at

[www.rcplondon.ac.uk/resources/complex-regional-pain-syndrome-guidelines](http://www.rcplondon.ac.uk/resources/complex-regional-pain-syndrome-guidelines)



## Complex regional pain syndrome in adults

UK guidelines for diagnosis, referral and management in primary and secondary care

May 2012

Endorsed by



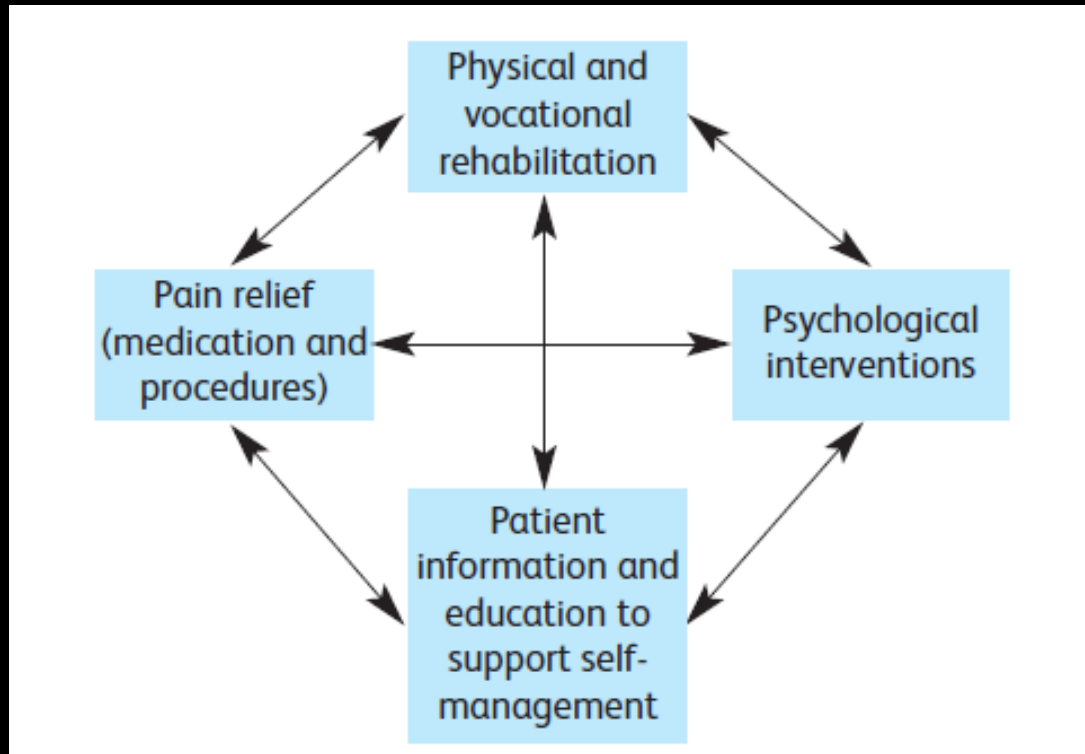
The Society of Chiropractors and Podiatrists



Pain Relief Foundation

Also endorsed by the British Society of Rheumatologists and British Health Professionals in Rheumatology

# The four pillars of treatment for CRPS



An integrated interdisciplinary approach

**Early appropriate intervention is key to outcome**



# CRPS treatment and referral pathway

## Phase 1 Undiagnosed CRPS

Identify CRPS signs and symptoms

## Phase 2 Diagnosing CRPS

Consider differential diagnoses

Meets Budapest diagnostic criteria

Confirm diagnosis via GP/Consultant

## Phase 3 Managing diagnosed CRPS

Mild/moderate symptoms

Moderate/severe symptoms\* and/or dystonia

Commence treatment

Refer for specialist CRPS rehabilitation  
The Royal National Hospital for Rheumatic Diseases, Bath

Noticeable response to treatment within 4 weeks and ongoing improvement

Failing to respond to treatment in 4 weeks

Pain management programme

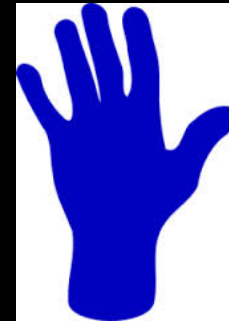
# Sensory discrimination training- (Desensitisation)

- Magnitude of body perception disturbance is associated with worsening tactile acuity and poor stimulus localisation (Förderreuther 2004, Lewis & Schweinhardt 2012)



- Somatosensory blurring (Haggard 2013)

- Tactile stimulation **sharpens** cortical representation of the painful body in S1 (Flor et al. 2001)



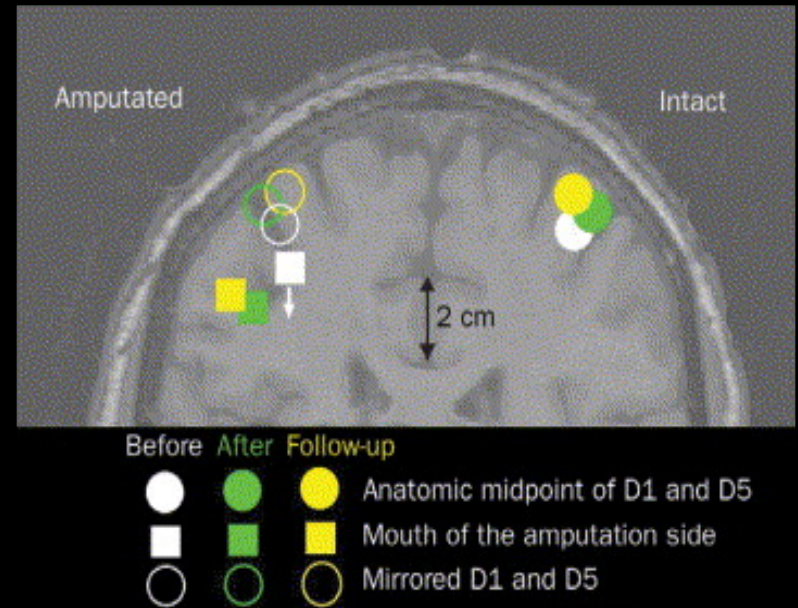
- Somatosensory sharpening (Haggard 2013)

- Effectiveness of training is enhanced by viewing the limb (Moseley & Wiech 2009, Lewis et al 2010)



# Why is using distinctly different tactile stimulation important?

Tactile **discrimination** rather than just stimulation alone has been shown to.....



Improve pain and tactile acuity in CRPS

Normalise cortical representation in phantom limb

Flor H; The Lancet Neurology 2002

# Tactile mislocalisation

- Finger misidentification- (finger agnosia)



- Tactile localisation training <sup>1</sup>



**Royal National Hospital for Rheumatic Diseases (RNHRD)  
Bath**

# De-sensitisation



# Guiding principles

- Reduce anxiety
- Visually concentrate on body area
- Use distinctly different stimuli and encourage patient to discern the qualities of each stimuli
- Encourage emotional engagement sense of ownership of the limb

# Mirror visual feedback



McCabe C.S. et al. A controlled pilot study of the utility of mirror visual feedback in the treatment of Complex Regional Pain Syndrome (Type 1). *Rheumatology* 2003; 42:97-101



# Treatment

**Aim: To perceive the limb in a more normal manner**

## **Other specific interventions**

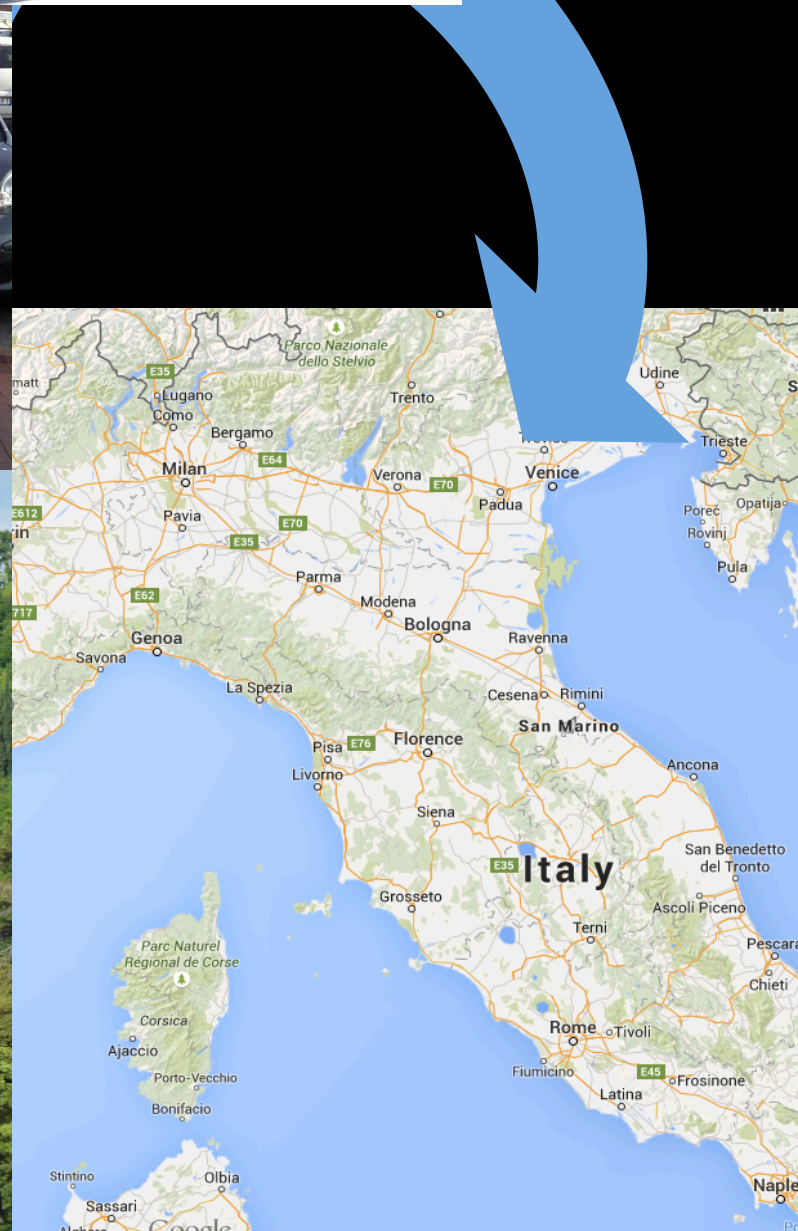
Imagery-static & imagined movements

Pictures and observing the corresponding limb of others

Normalising limb

-painting nails

-wearing jewellery



# Neurocognitive Rehabilitation

Dr Carlo Perfetti

70/80s- Perfetti approach/method

- Somatosensory / proprioceptive information to solve a cognitive problem
- Aim to regain multi sensory/motor coherence of the central representation of the body
- Predominantly used in stroke. Now applying to neuropathic pain
- Re-educate healthy side to correctly interpret multisensory information to solve cognitive problem (mainly with eyes closed) – guidance often required to understand how to interpret sensory information on healthy side to answer question
- Relate to non-painful past sensory experience (tactile memory)
- Transfer this to painful side
- Post grad AHPs attend Santorso Institute to become an accredited Perfetti Therapist





## Is Perfetti effective in treating pain?

- Little published evidence
- Anecdotal reports- good outcomes
- Little CRPS reported in Italy
- CRPS Case report- lower limb
- 4 weeks of intensive treatment 3hrs per day
- Pain free returned to normal gait
- Theory is inline with central mechanism approach. Similar to incongruence theory of pathologic pain.
- Robust controlled trials are required to determine whether Perfetti method is effective in treating neuropathic pain



# Complex Regional Pain Syndrome Conference IASP SIG 2015

## Satellite to EFIC Congress Vienna

Monday 31<sup>st</sup> August to Tuesday 1<sup>st</sup> September 2015

Balgrist University Hospital

Zurich, Switzerland

Programme details [www.balgrist.ch](http://www.balgrist.ch)

IASP members 300€, non members 350€

Registration email: [kongress@balgrist.ch](mailto:kongress@balgrist.ch)