

Functional neurological symptoms

Alan Carson,
Professor of Neuropsychiatry
Edinburgh

SHORT REPORT

Do medically unexplained symptoms matter? A prospective cohort study of 300 new referrals to neurology outpatient clinics

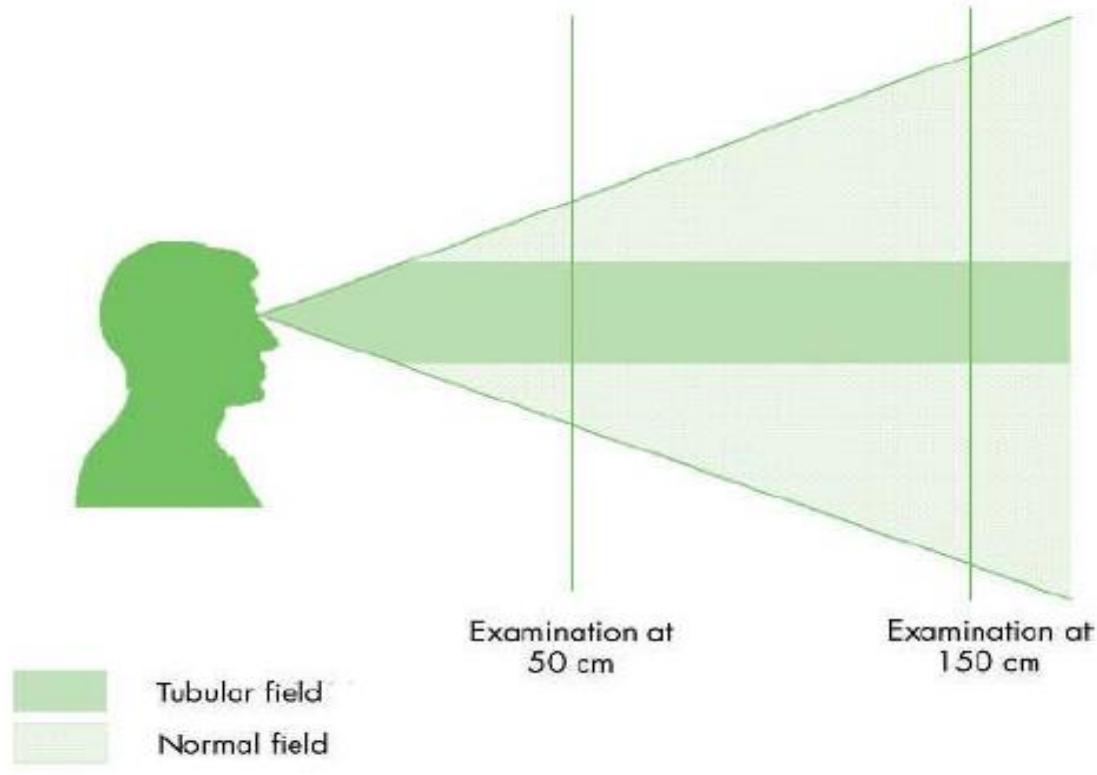
Alan J Carson, Brigitte Ringbauer, Jon Stone, Lesley McKenzie, Charles Warlow,
Michael Sharpe

SHORT REPORT

Do **medically unexplained symptoms** matter? A prospective cohort study of 300 new referrals to neurology outpatient clinics

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SHORT REI

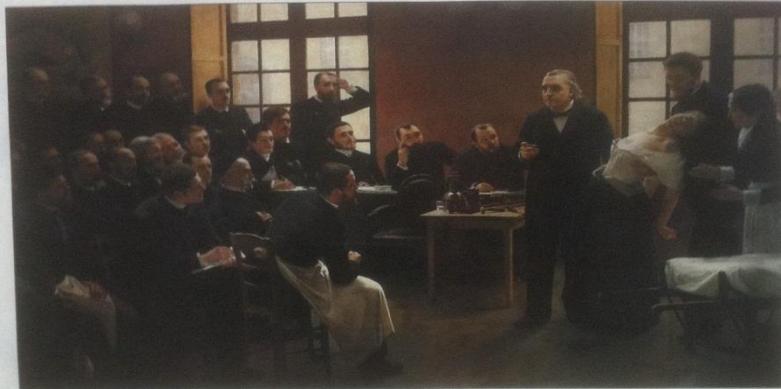


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29 October 2005

BMJ



Misdiagnosis of conversion symptoms

Is now low: since the 1970s the rate has been about 4% p989

Improving surveillance of MRSA bacteraemia p976, p992, p1013

Bird flu and pandemic flu p975, p981

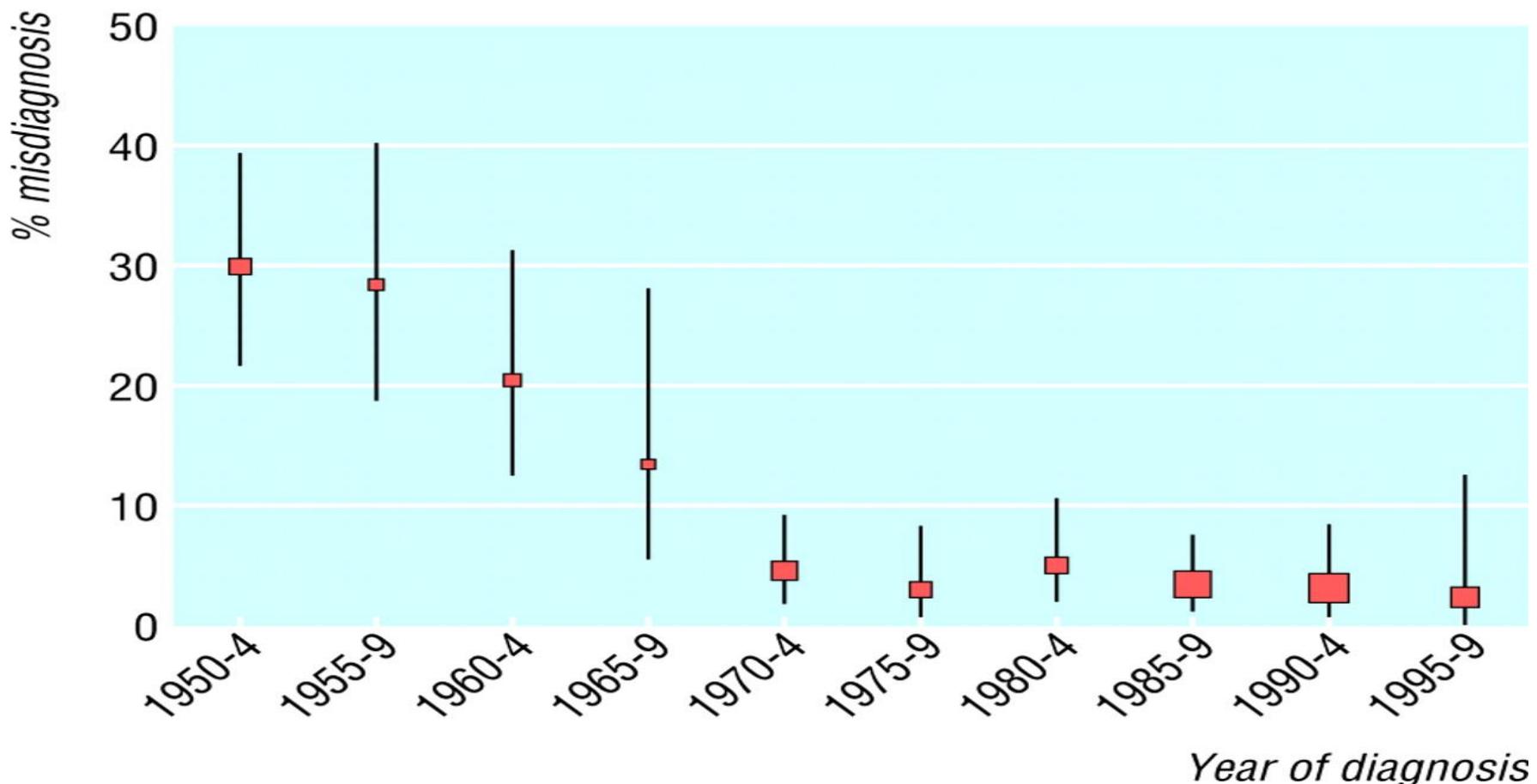
Orphan drugs: should they be treated differently? p1016, p1019

25 years of HIV infection in haemophilic men p997

Speed dating for postgraduate research p1025

bmj.com

Misdiagnosis of conversion symptoms and hysteria



SHORT REPORT

Do medically unexplained symptoms matter? A prospective cohort study of 300 new referrals to neurology outpatient clinics

Alan J Carson, Brigitte Ringbauer, Jon Stone, Lesley McKenzie, Charles Warlow,
Michael Sharpe

Symptoms 'unexplained by organic disease' in 1144 new neurology out-patients: how often does the diagnosis change at follow-up?

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Short report



Disability, distress and unemployment in neurology outpatients with symptoms 'unexplained by organic disease'

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Short report

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JNNP Online First, published on September 12, 2013 as 10.1136/jnnp-2013-305321

Neuropsychiatry

RESEARCH PAPER

The prognosis of functional (psychogenic) motor symptoms: a systematic review

Jeannette Gelauff,¹ Jon Stone,¹ Mark Edwards,³ Alan Carson²

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Short report

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JNNP Online First, published on September 12, 2013 as 10.1136/jnnp-2013-305321

Neuropsychiatry

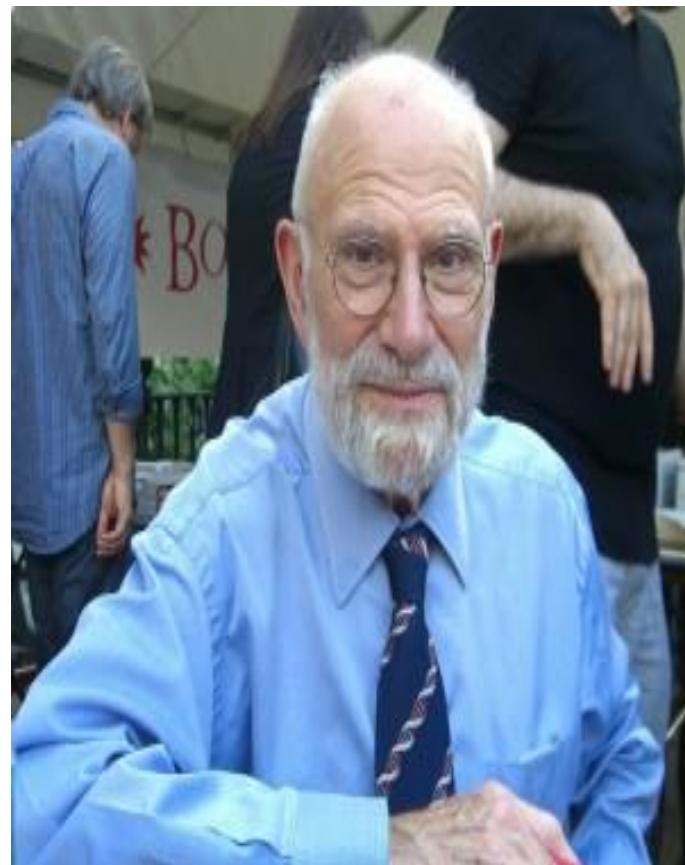
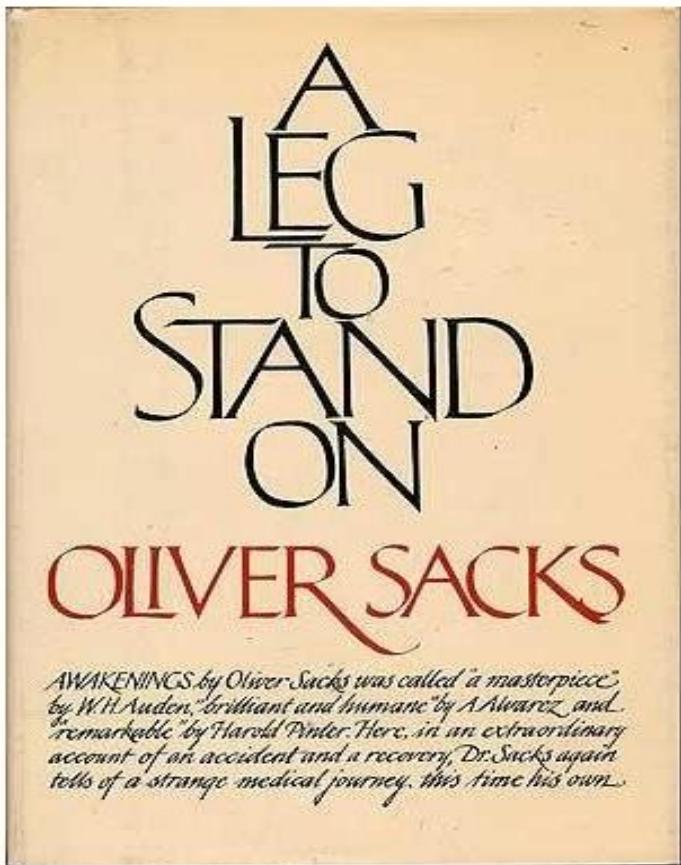
RESEARCH PAPER

SNSS- Unpublished data

Less than 5% of functional patients across Scotland ever see a therapist- if they do the average number of sessions is only 4 (ie around 1% of neuropatients- we need to see 10x as many)

SHORT REI

- To be renamed from **Conversion Disorder** to **Functional Neurological Disorder in DSM V and ICD 11.**
- New definition based around inconsistency and incongruent physical symptoms.
- Need for explicit psychological 'events' has been dropped



The central effects of peripheral injury

Oliver Sacks

the quadriceps—the rectus femoris—is a hip flexor muscle, indeed the main one, so it is not surprising that it too was atonic, undercutting movement and proprioception at the hip. But even when there is no anatomical connection, it is common to see distant effects of a local injury. Even with a simple bony injury like a Colles fracture, there is apt to be ‘snaring’ of the arm and

The sorts of complex perceptual and relational difficulties described in *A Leg to Stand On* are increasingly recognised as normal brain responses to peripheral injuries, as many pain neurologists and neurophysiologists have observed, and there is a large amount of literature on the subject.

apparently as far as the hip: "*I knew not my leg. It was utterly strange, not-mine, unfamiliar. I gazed upon it with absolute non-recognition....The more I gazed at that cylinder of chalk, the more alien and incomprehensible it appeared to me. I could no longer feel it was 'mine', as part of me. It seemed to bear no relation whatever to me. It was absolutely **not-me**—and yet, impossibly, it was attached to me—and even more impossibly, 'continuous' with me.*" Sensory loss was to all modalities in the whole leg; "*There was absolutely no sensation whatever...it looked and felt uncannily alien—a lifeless replica attached to my body.*" Later,

“What was now becoming frightfully, even luridly, clear was that whatever had happened was not just local, peripheral, superficial—the terrible silence, the forgetting, the inability to call or recall—this was radical, central, fundamental. What seemed, at first, to be no more than a local, peripheral breakage and breakdown now showed itself in a different, and quite terrible, light—as a breakdown of memory, of thinking, of will—***not just a lesion in my muscle, but a lesion in me.***”

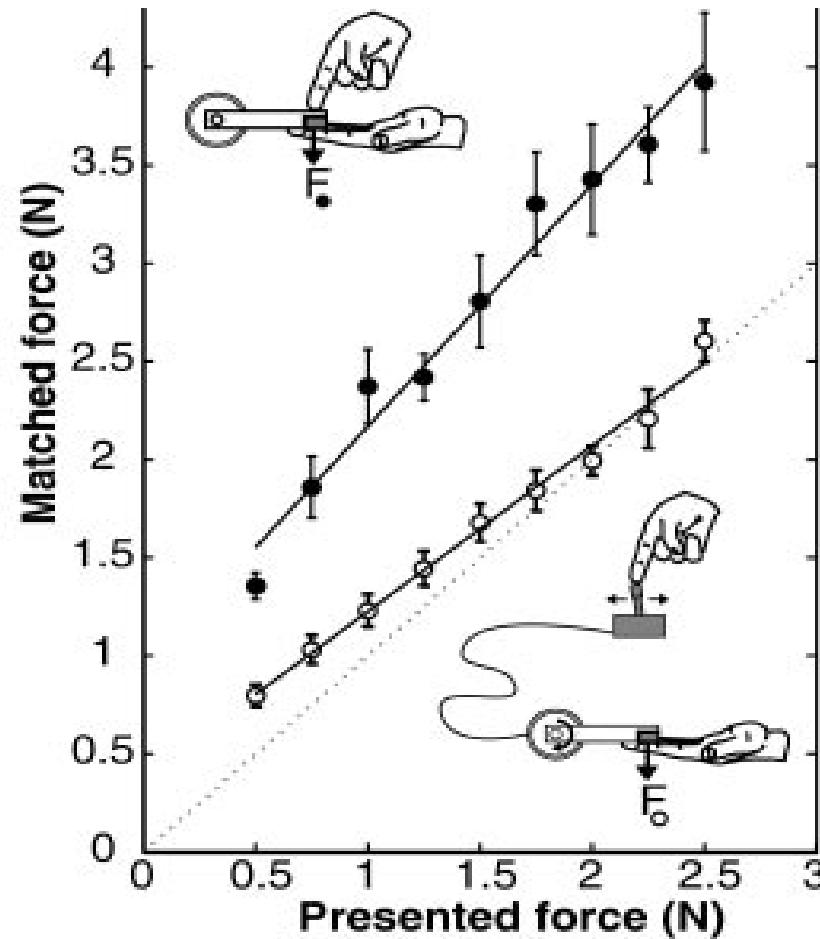
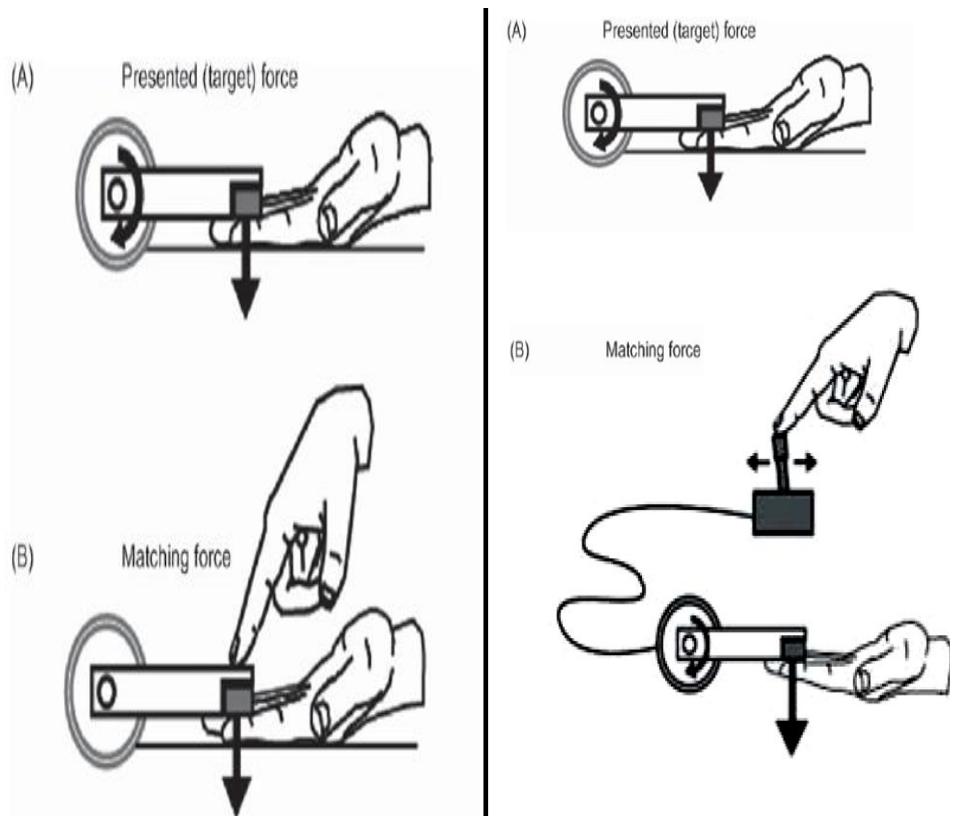
Separating ‘Why?’ and ‘How?’ in Neurology

	Why?	How?
Stroke	Smoking, BP, Lipids, Genes	Blocked artery
Multiple Sclerosis	Genes. Don't know really	Autoimmune inflammation
Generalised Epilepsy	Genes etc. Don't know really	Electrical Storm
Functional Symptoms	?	?

HOW

REPORT**Loss of sensory attenuation in patients with functional (psychogenic) movement disorders**

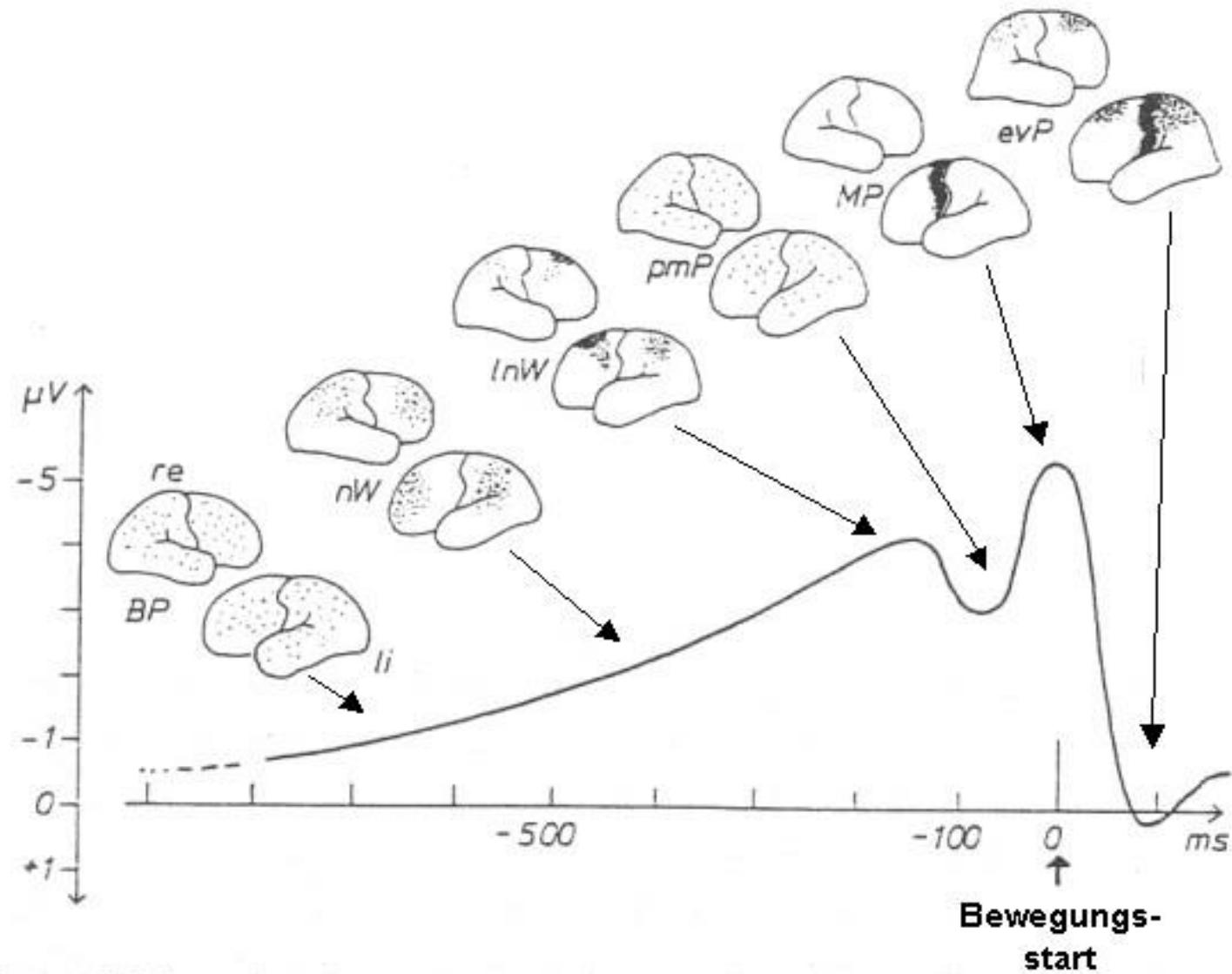
Isabel Pareés,¹ Harriet Brown,² Atsuo Nuruki,^{1,3} Rick A. Adams,² Marco Davare,¹ Kailash P. Bhatia,¹ Karl Friston² and Mark J. Edwards¹



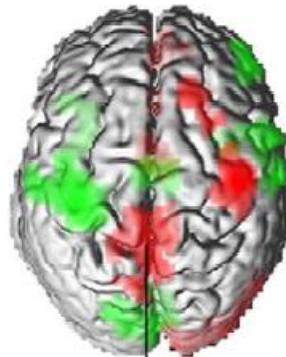
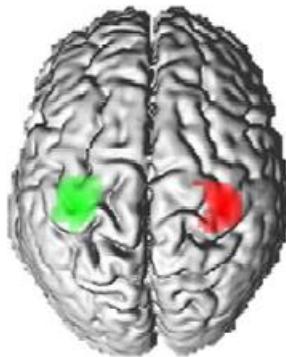
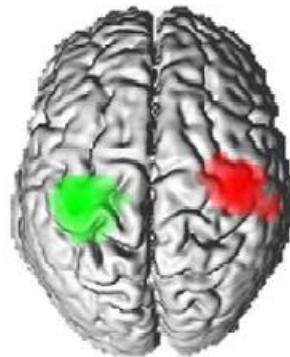
19th century view of the neuropsychology and neural mechanism of hysterical paralysis



Paget (1873) – ‘She says..’I cannot’, it looks like ‘I will not’; but it is ‘I cannot will’



Normal Simulation Conversion



■ rM1 > IM1
■ IM1 > rM1

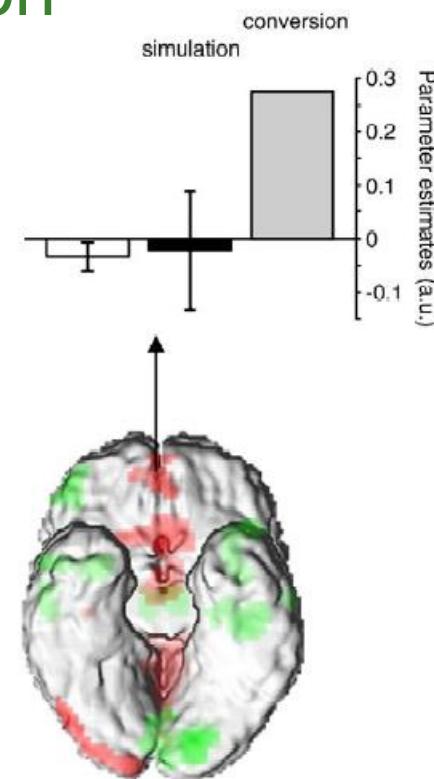
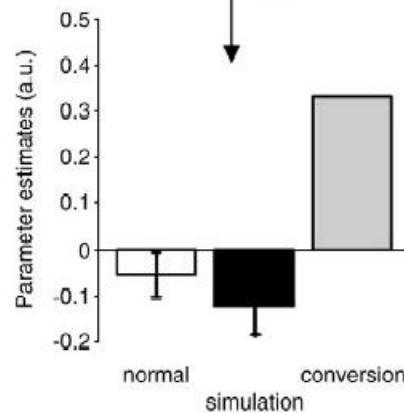
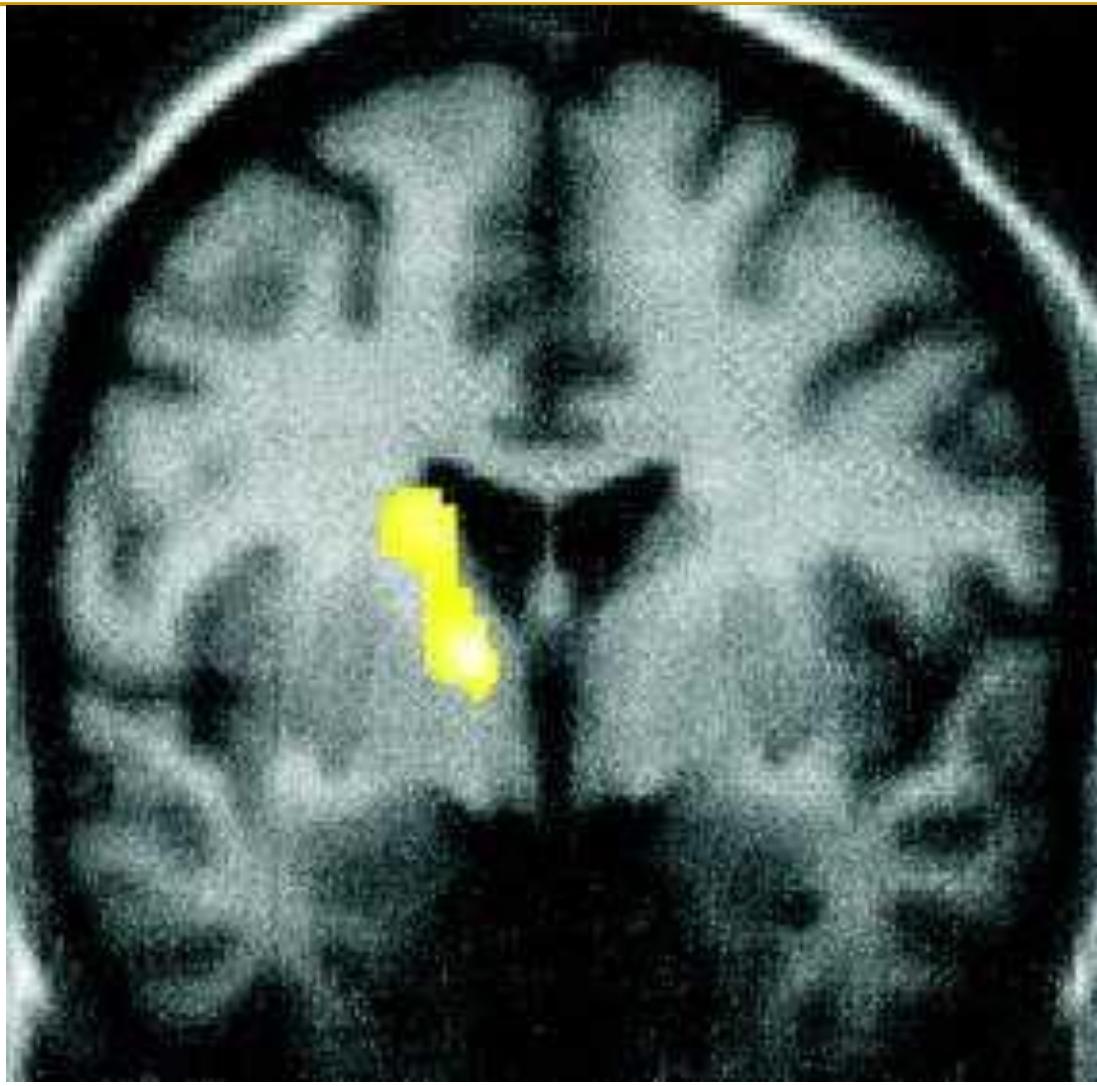


Fig. 6. Functional connectivity of primary motor cortices. Regions showing an increase in correlated activity with the right primary motor cortex (M1) compared to the left M1 (depicted in red) and conversely (left M1>right M1, depicted in green) in the normal controls, simulation condition, and conversion patient (threshold $p<0.001$ uncorrected, $k=10$ voxels). Motor connectivity was symmetrical and restricted to sensorimotor areas in normal and simulation conditions; but in the conversion patient, selective increases were found for right M1 connectivity with the precuneus and vmPFC, as well as with the right superior gyrus. Plots represent the parameter estimates (betas) for the rM1>IM1 connectivity in the normal, simulation, and conversion conditions for precuneus (6 mm sphere centered on xyz = -3, -48, 63) and vmPFC (6 mm sphere centered on xyz = 3, 48, -12).



Hysterical Hemianaesthesia -

Contralateral hypofunction using sensory stimulation and SPECT

Vuilleumier et al 2001

The involuntary nature of conversion disorder



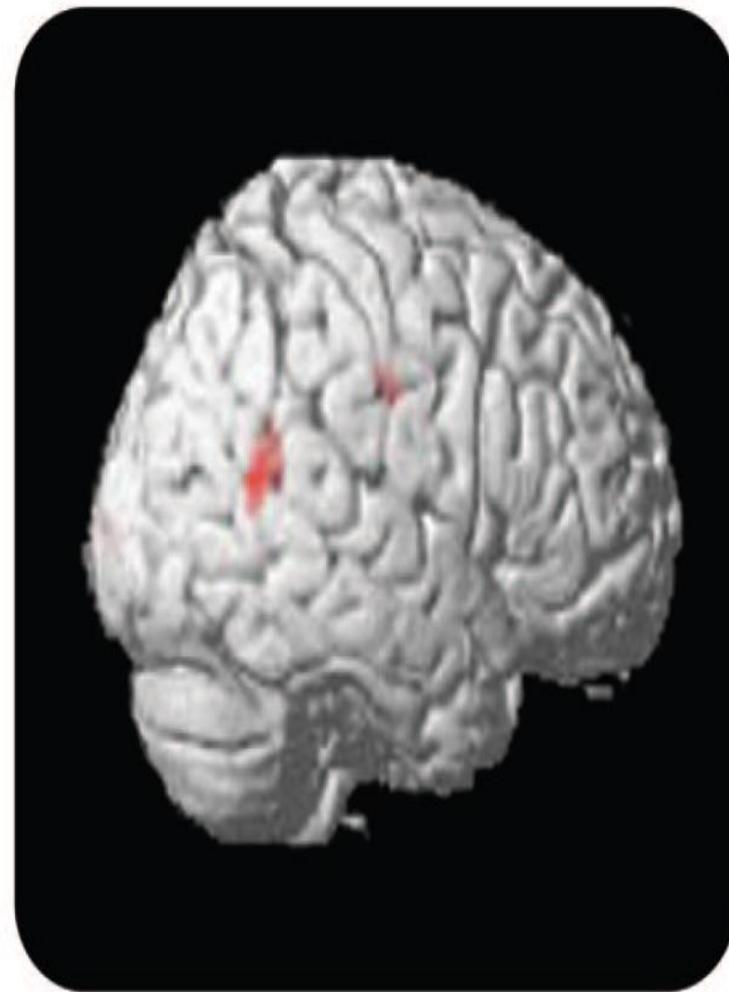
V. Voon, MD
C. Gallea, PhD
N. Hattori, MD, PhD
M. Bruno, MD
V. Ekanayake, BA
M. Hallett, MD

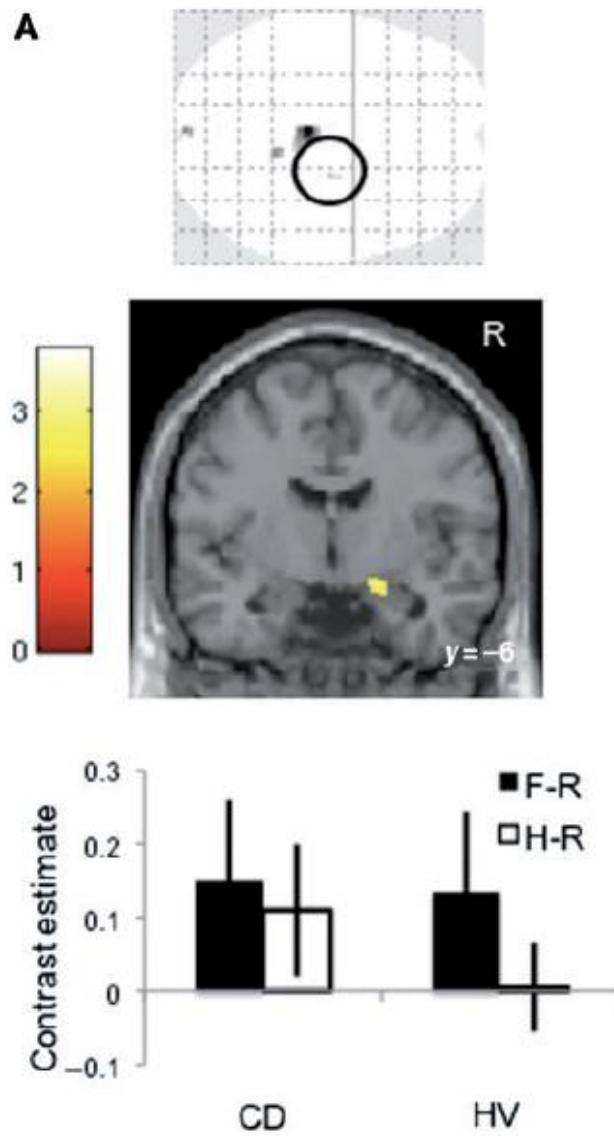
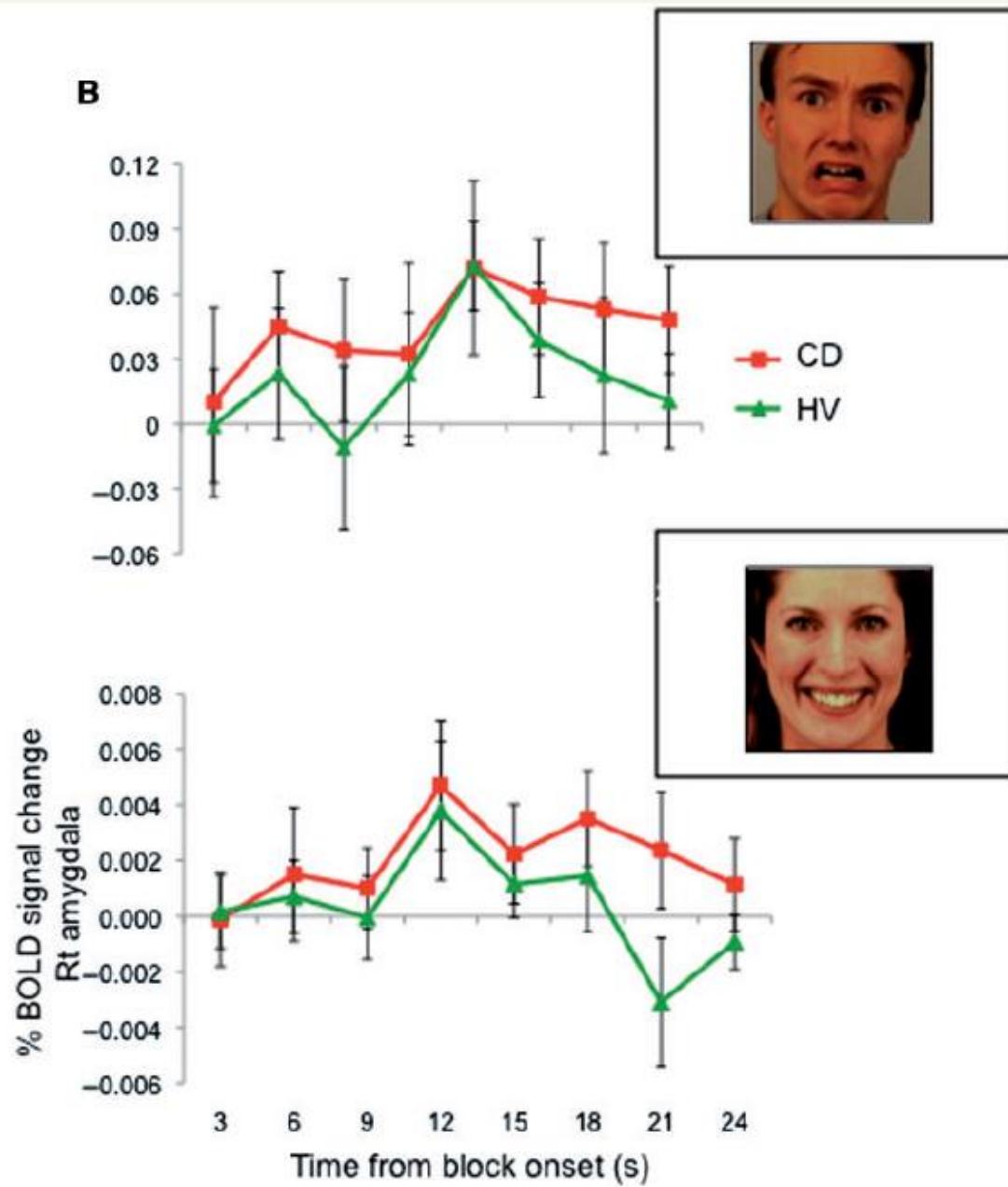
ABSTRACT

Background: What makes a movement feel voluntary, and what might make it feel involuntary? Motor conversion disorders are characterized by movement symptoms without a neurologic cause. Conversion movements use normal voluntary motor pathways, but the symptoms are paradoxically experienced as involuntary, or lacking in self-agency. Self-agency is the experience that one is the cause of one's own actions. The matched comparison between the prediction of the action consequences (feed-forward signal) and actual sensory feedback is believed to give rise to self-agency and has been in part associated with the right inferior parietal cortex. Using fMRI, we assessed the correlates of self-agency during conversion tremor.

Address correspondence and
reprint requests to Dr. Valerie
Voon, NIH, 10 Center Dr.

B



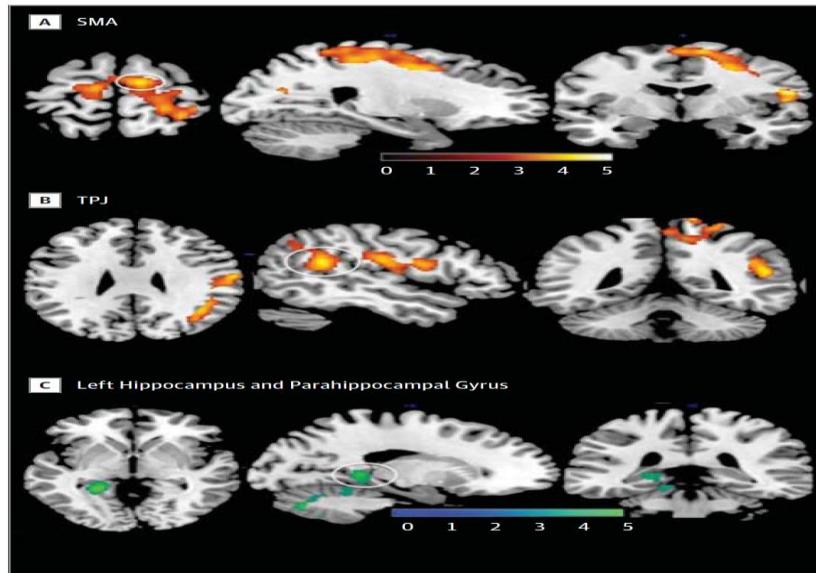
A**B**

Original Investigation

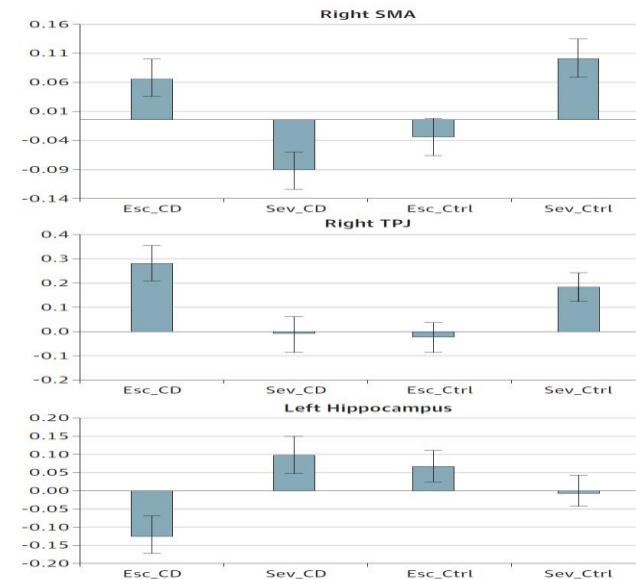
Neural Correlates of Recall of Life Events in Conversion Disorder

Selma Aybek, MD; Timothy R. Nicholson, MD, PhD; Fernando Zelaya, PhD; Owen G. O'Daly, PhD; Tom J. Craig, MD, PhD; Anthony S. David, MD; Richard A. Kanaan, MD, PhD

Figure 1. Whole-Brain Analysis



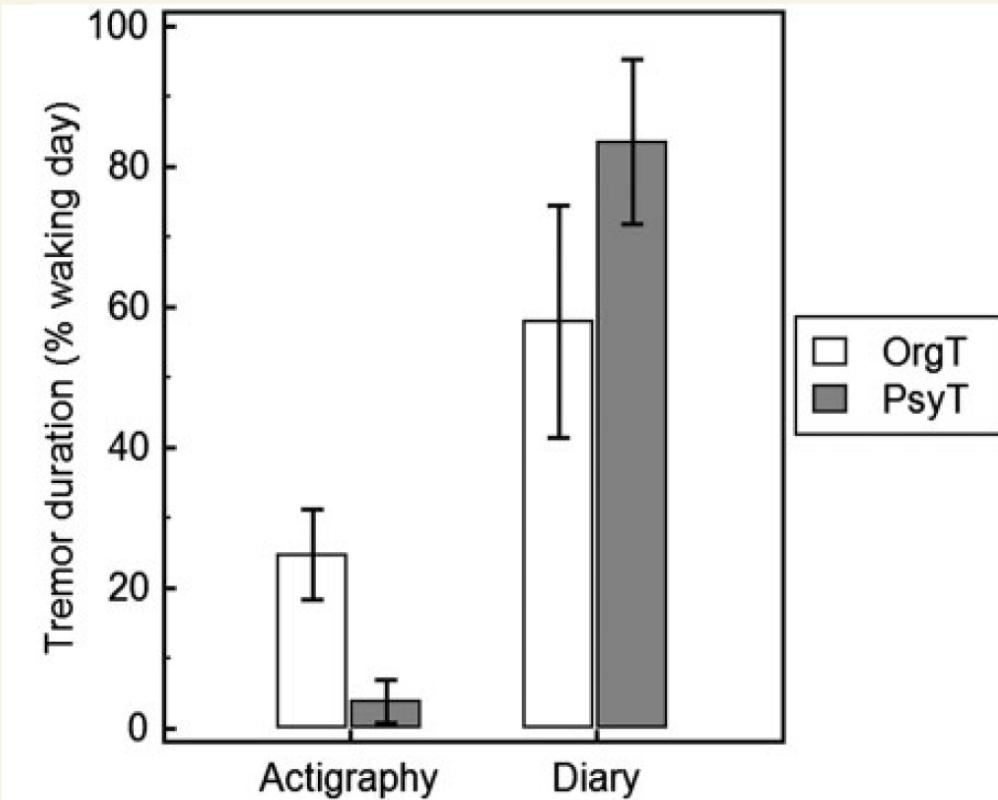
Statistical parametric maps showing significant clusters of activation ($P < .05$, familywise error and cluster corrected). Red indicates group \times condition interaction in the contrast escape $>$ severe in patients $>$ controls showing peak activations in the right supplementary motor area (SMA) and the right temporoparietal junction (TPJ). Blue indicates group \times condition interaction in the contrast escape $<$ severe in patients $>$ controls showing decreased



activation in the left hippocampus and parahippocampal gyrus. On the right are contrast estimates (y-axis) at right SMA (Montreal Neurological Institute [MNI] 12, -8, 68), right TPJ (MNI 40, -58, 24), and left hippocampus (MNI -28, -42, 2) (as indicated in the circles on the left). CD indicates patients with conversion disorder; Ctrl, healthy controls; Esc, escape condition; and Sev, severe condition.

Believing is perceiving: mismatch between self-report and actigraphy in psychogenic tremor

Isabel Pareés, Tabish A. Saifee, Panagiotis Kassavetis, Maja Kojovic, Ignacio Rubio-Agusti, John C. Rothwell, Kailash P. Bhatia and Mark J. Edwards





JNNP Online First, published on November 28, 2014 as 10.1136/jnnp-2014-309255
Neuropsychiatry



OPEN ACCESS

VIEWPOINT

Physiotherapy for functional motor disorders: a consensus recommendation

Glenn Nielsen,^{1,2} Jon Stone,³ Audrey Matthews,⁴ Melanie Brown,⁴ Chris Sparkes,⁵ Ross Farmer,⁶ Lindsay Masterton,⁷ Linsey Duncan,⁷ Alisa Winters,³ Laura Daniell,³ Carrie Lumsden,⁷ Alan Carson,⁸ Anthony S David,^{9,10} Mark Edwards¹



I WANT TO WORK WITH YOU ON
RE-TRAINING NORMAL MOVEMENTS...WE
WILL START WITH SIMPLE TASKS, BUT
THEY WILL GET INCREASINGLY
CHALLENGING FOR YOU

AND AFTER REVIEWS
BY THE
PHYSIOTHERAPIST...

FINALLY SOME HANDS ON STUFF!

IN THE PROCESS YOU WILL ALSO
LEARN MORE ABOUT WHAT WENT
WRONG BEFOREHAND

CAN YOU SEE HOW MUCH
BETTER YOU ARE WALKING WHEN YOU
ARE FOCUSING LESS ON YOUR
AFFECTED LEG?

1. Education
2. Demonstration that normal movement can occur
3. Retraining movement with diverted attention
4. Changing maladaptive behaviours related to symptoms.

- ▶ Goal directed rehabilitation focusing on function and automatic movement (eg, walking) rather than the impairment (eg, weakness) and controlled ('attention-full') movement (eg, strengthening exercises).

Table 3 Examples of techniques for specific symptoms to normalise movement

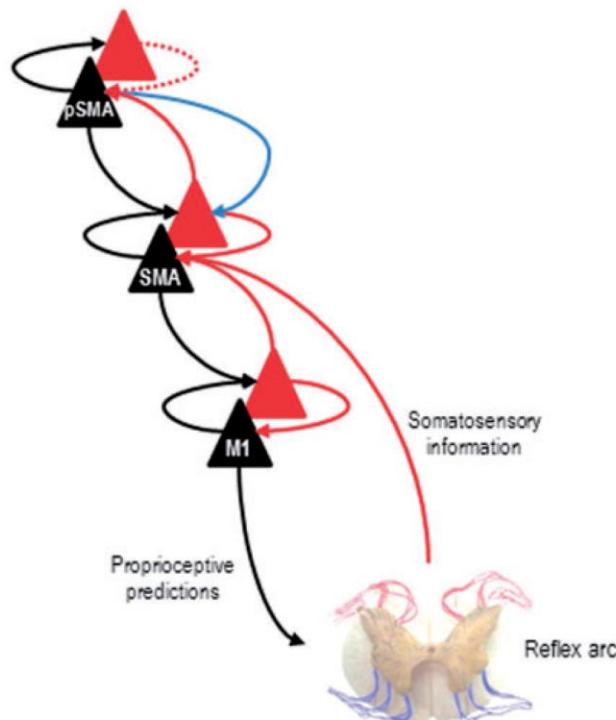
Symptom	Movement Strategy
Leg weakness	<p>Early weight bearing with progressively less upper limb support, eg, 'finger-tip' support, preventing the patient from taking weight through walking aids/supporting surfaces</p> <p>Standing in a safe environment with side to side weight shift</p> <p>Crawling in 4 point then 2 point kneeling</p> <p>Increase walking speed</p> <p>Treadmill walking (with or without a body weight support harness and feedback from a mirror)</p>
Ankle weakness	Elicit ankle dorsiflexion activity by asking the patient to walk backwards, with anterior/posterior weight shift while standing or by asking the

OCCASIONAL PAPER

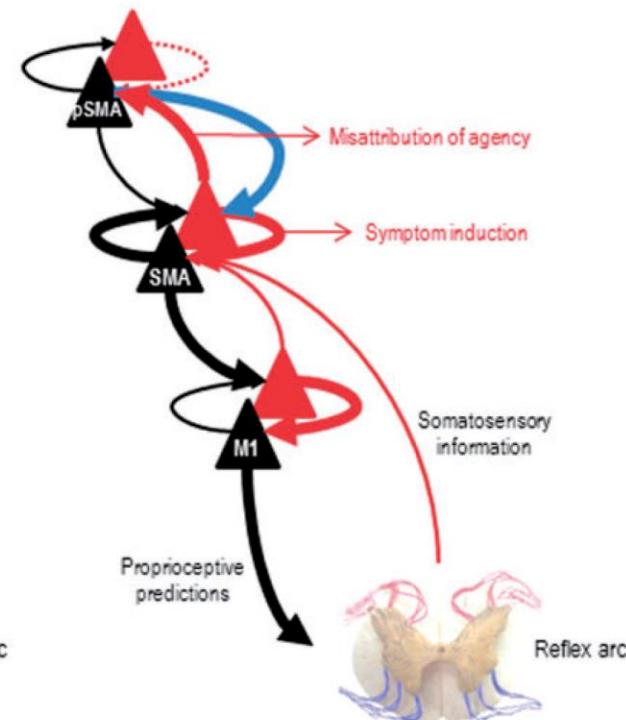
A Bayesian account of 'hysteria'

Mark J. Edwards,^{1,*} Rick A. Adams,^{2,*} Harriet Brown,² Isabel Pareés¹ and Karl J. Friston²

Normal movement

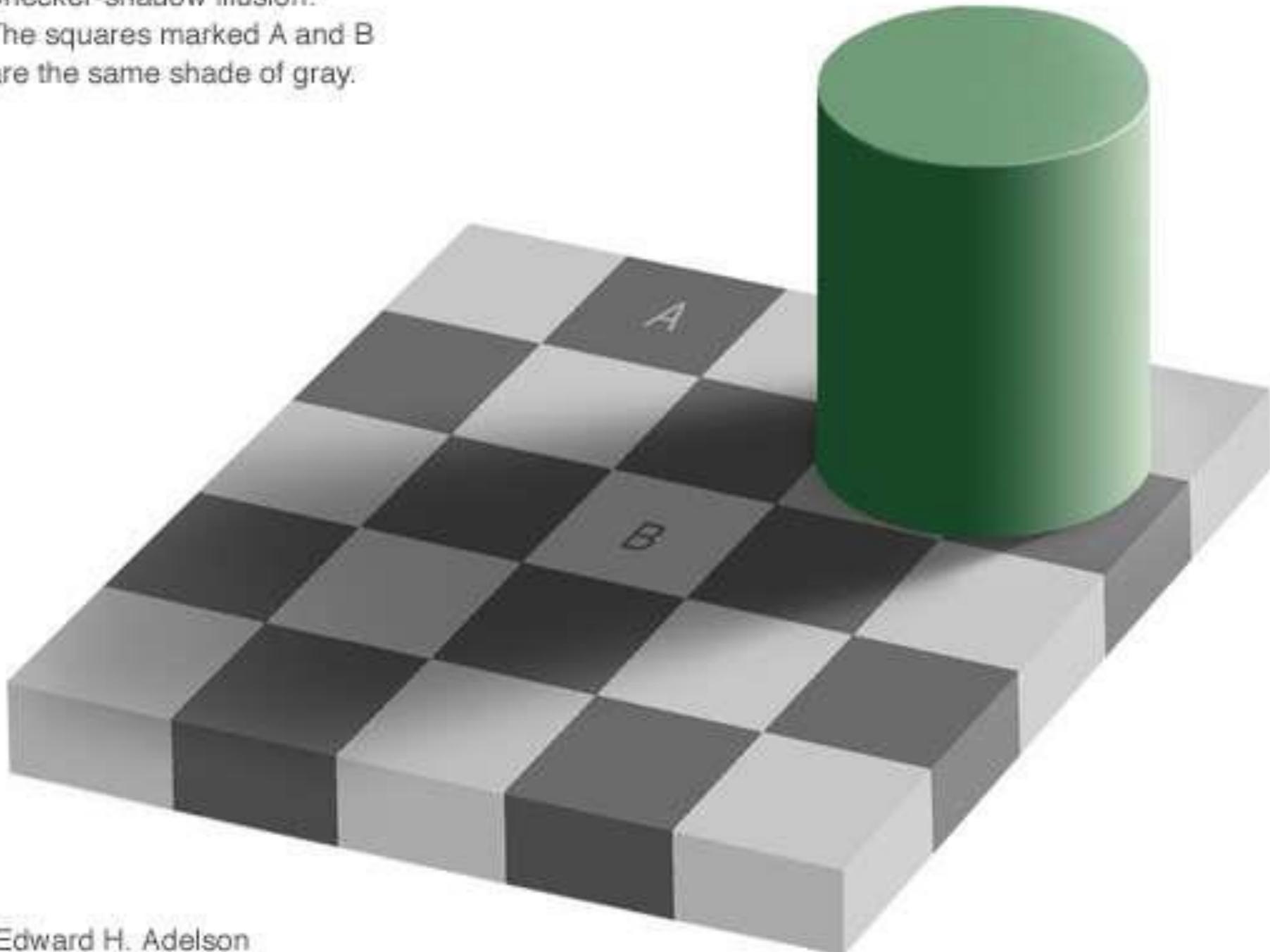


Functional motor symptom



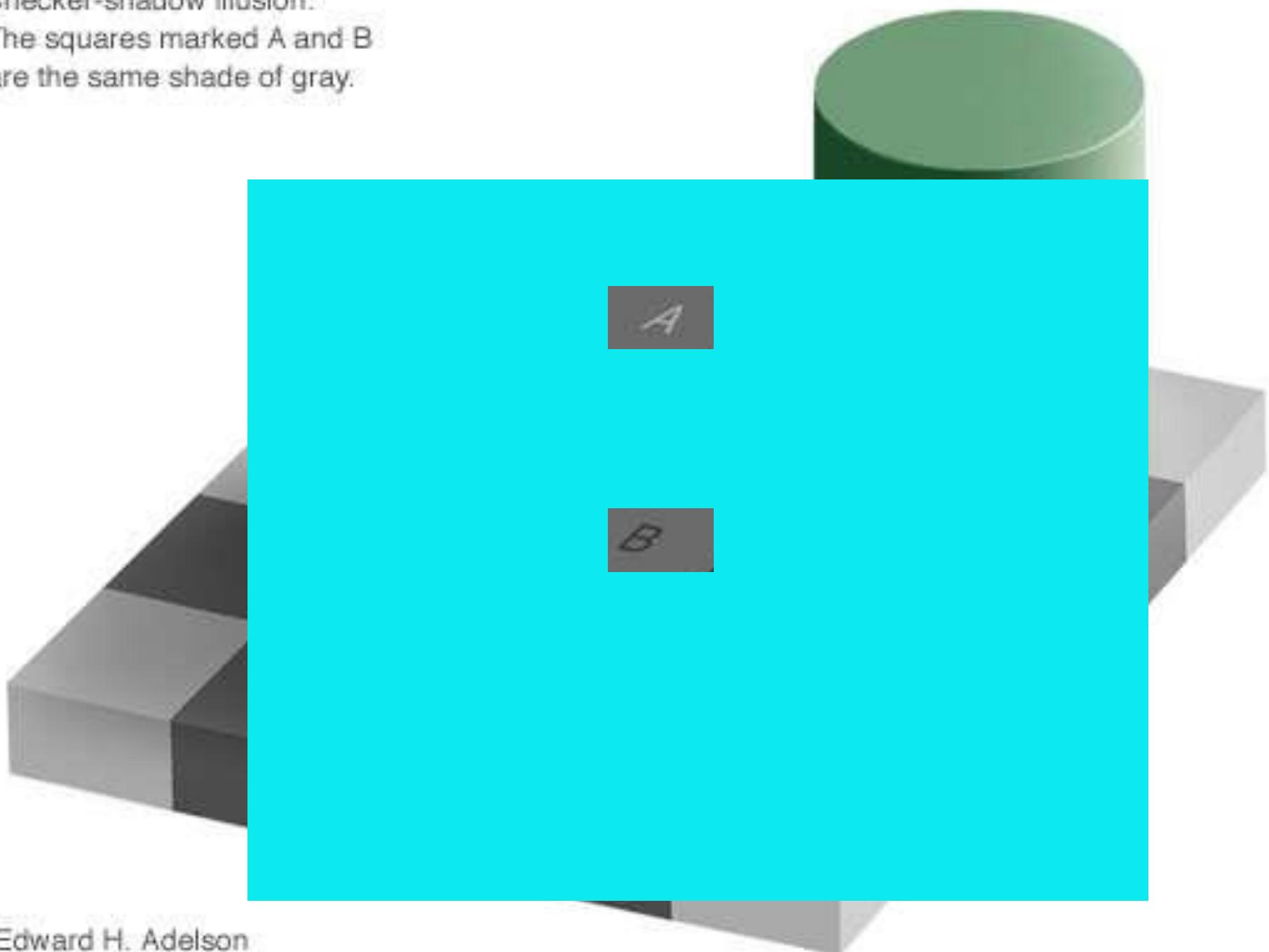
Checker-shadow illusion:

The squares marked A and B
are the same shade of gray.



Checker-shadow illusion:

The squares marked A and B
are the same shade of gray.



Baseline predictors of poor outcome (Odds ratios from multiple logistic regression model: n=716)

Symptoms likely permanent	2 (1.4 to 3.0)
Symptoms not due to stress/emotions	2.2 (1.5 to 3.3)
Incapacity benefit or DLA	2.3 (1.4 to 3.9)

WHY



Available online at www.sciencedirect.com



Clinical Psychology Review 27 (2007) 798–820

CLINICAL
PSYCHOLOGY
REVIEW

Trauma and medically unexplained symptoms Towards an integration of cognitive and neuro-biological accounts

Karin Roelofs ^{a,*}, Philip Spinhoven ^{a,b}

^a Section of Clinical and Health Psychology, Leiden University, the Netherlands

^b Department of Psychiatry, Leiden University Medical Centre, the Netherlands

Received 31 October 2005; received in revised form 6 March 2006; accepted 6 March 2006

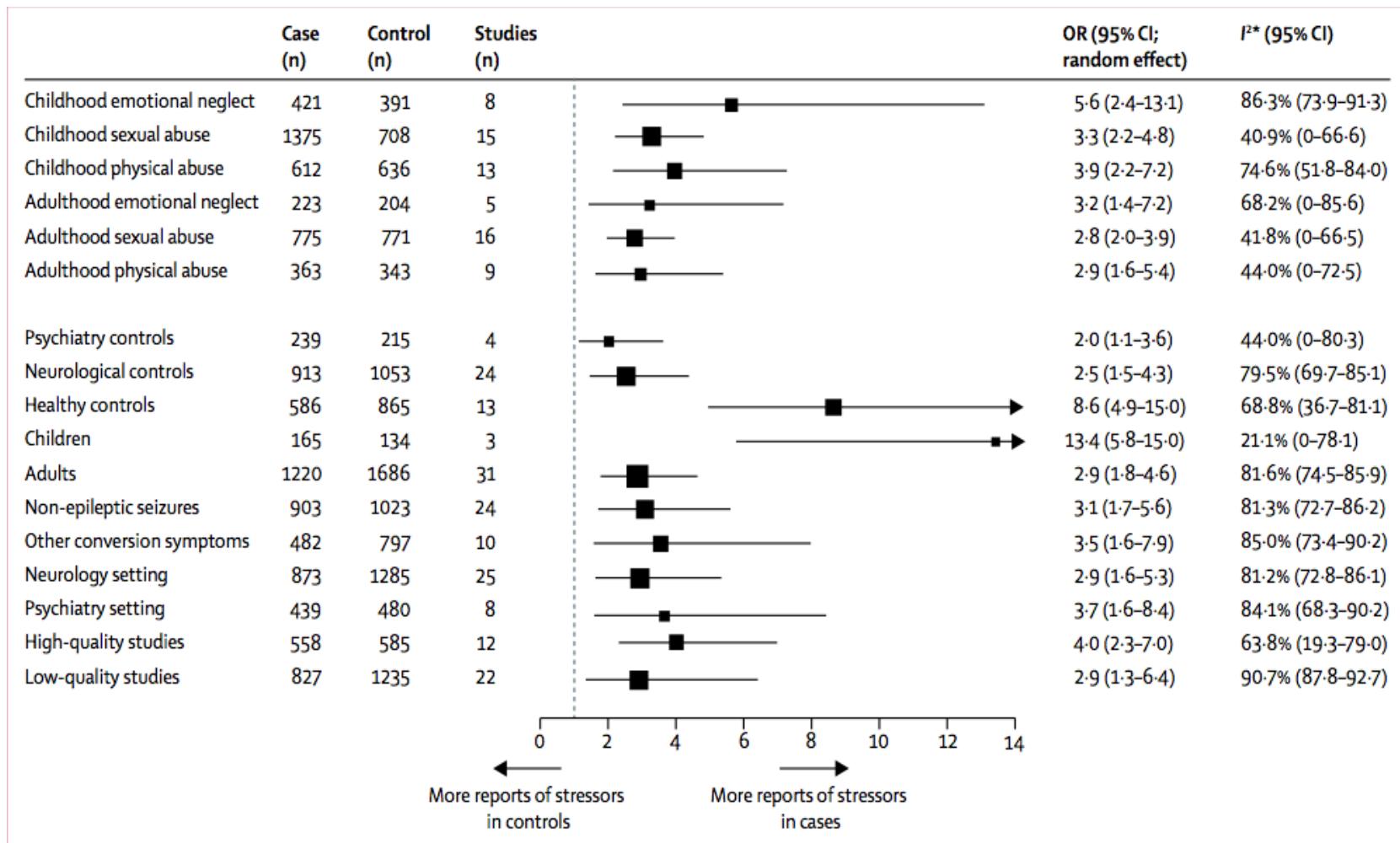
Empirical support. Especially in retrospect it is astonishing how influential the conversion model has been in theorizing about MUS and in shaping the emphasis on repressed emotions in medical practice given the absence of systematically collected data supporting the conversion hypothesis. Although the original ideas about the discharge of psychic energies were discarded long ago, the idea of a kind of conversion of psychic conflicts into somatic symptoms continues to be widely endorsed in some parts of the scientific community and among the lay public.

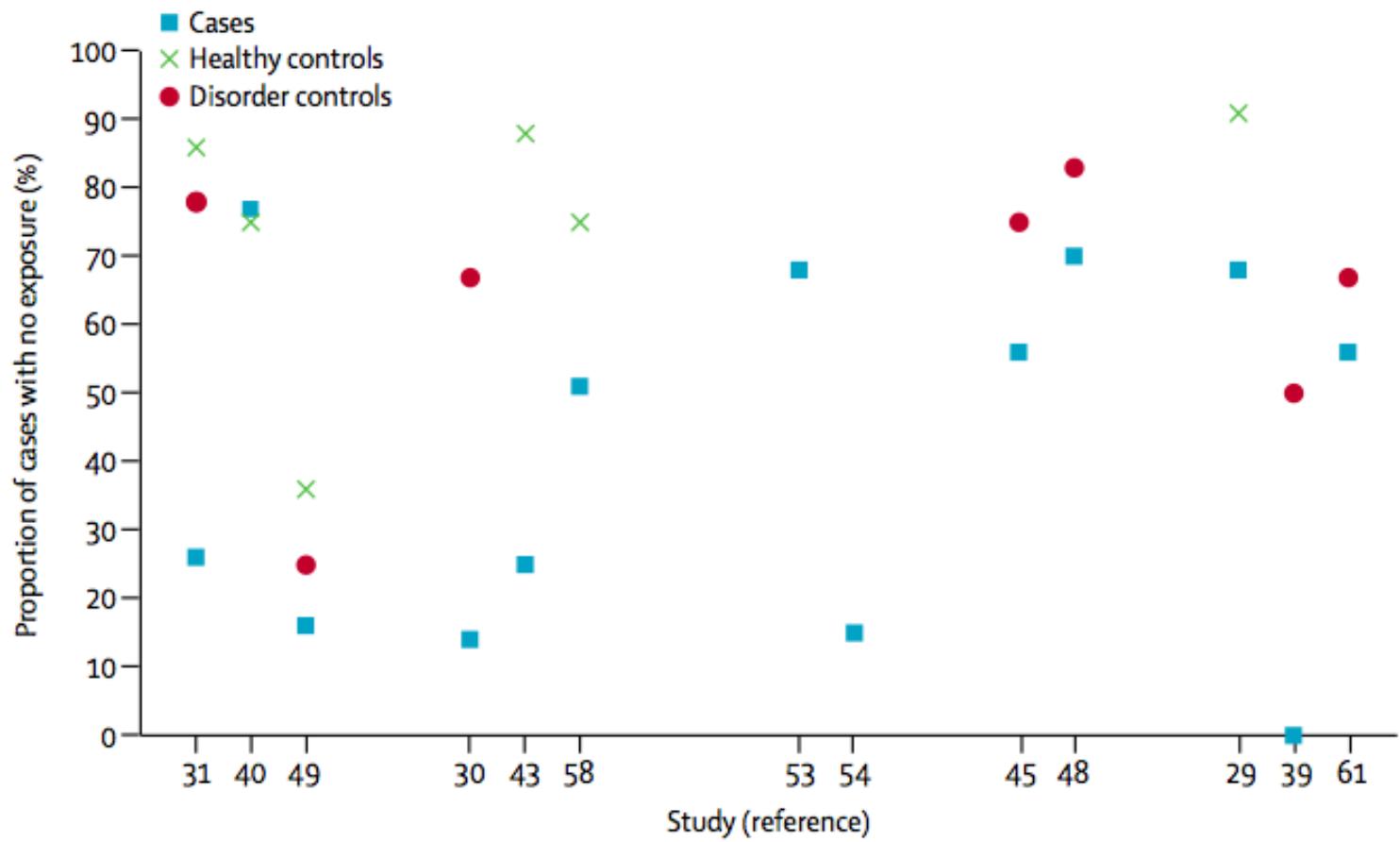
Limitations. It can be seriously doubted whether conversion models adequately account for the core clinical and research data on MUS as the empirical support for their major assumptions is lacking or weak. As far as primary gain,

Summary

- Current and previous aversive experience increase the odds of having a FNS approximately 4 fold
- But (maybe) one third of patients don't appear to have had such an experience
- Nor does it explain why one patient gets a seizure and another paralysis
- Nor does an abusive experience 10 years ago explain why the symptom starts on the 7th Sept 2017

Stressful life events and maltreatment in conversion (functional neurological) disorder: systematic review and meta-analysis of case-control studies





Type of trauma	No severe life events	No stressors	No stressors	No exposure to maltreatment	No exposure to physical or sexual abuse
Note	Assessed by LEDS	Assessed by clinical interview	Rate of no exposure only described in cases	Included emotional neglect	..

Figure 3: Proportion of cases with no exposure to stressors compared with controls

Trauma, stress, and preconscious threat processing in patients with psychogenic nonepileptic seizures

*†Patricia Bakvis, †‡Karin Roelofs, *Jarl Kuyk, *Peter M. Edelbroek,
*Wilhelmina A.M. Swinkels, and †§Philip Spinthoven

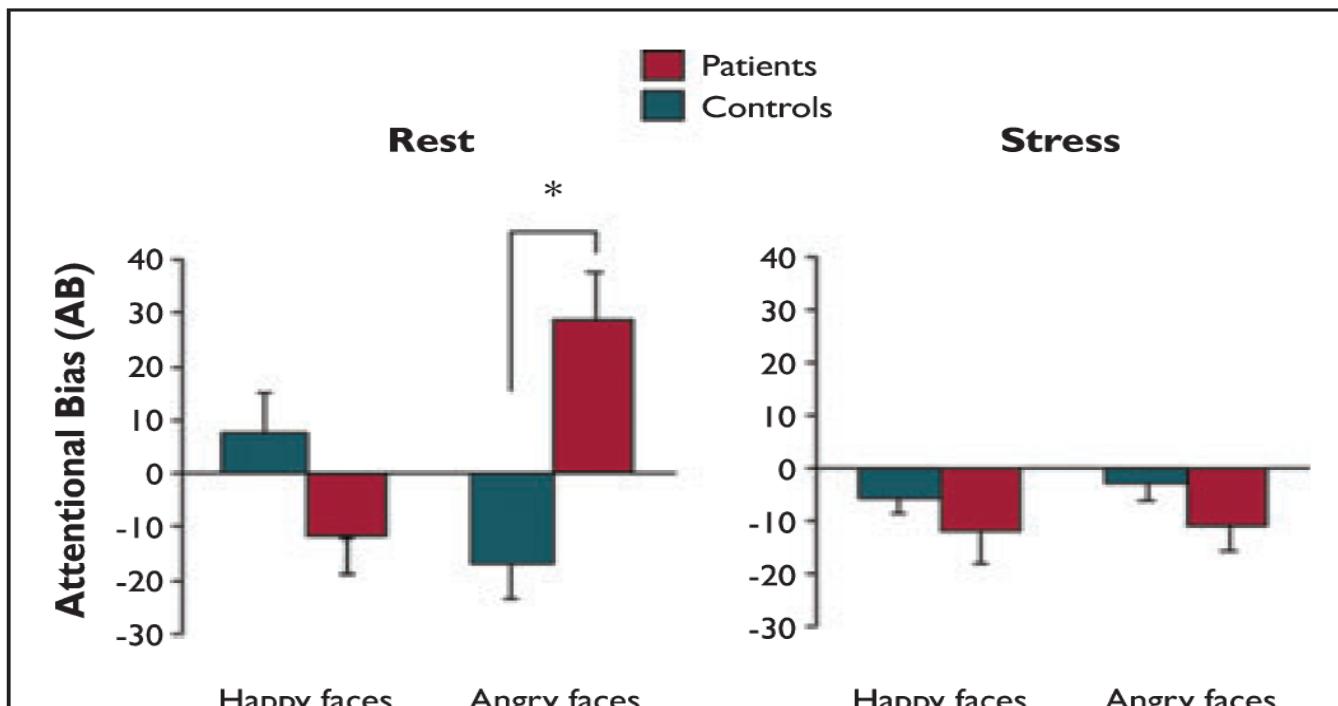


Figure 3.

Mean attentional bias (AB) scores (color-naming latencies of emotional faces minus color-naming latencies

Brief Communication

Basal cortisol is positively correlated to threat vigilance in patients with psychogenic nonepileptic seizures

Patricia Bakvis ^{a,b}, Philip Spinhoven ^{a,c}, Karin Roelofs ^{a,d,*}

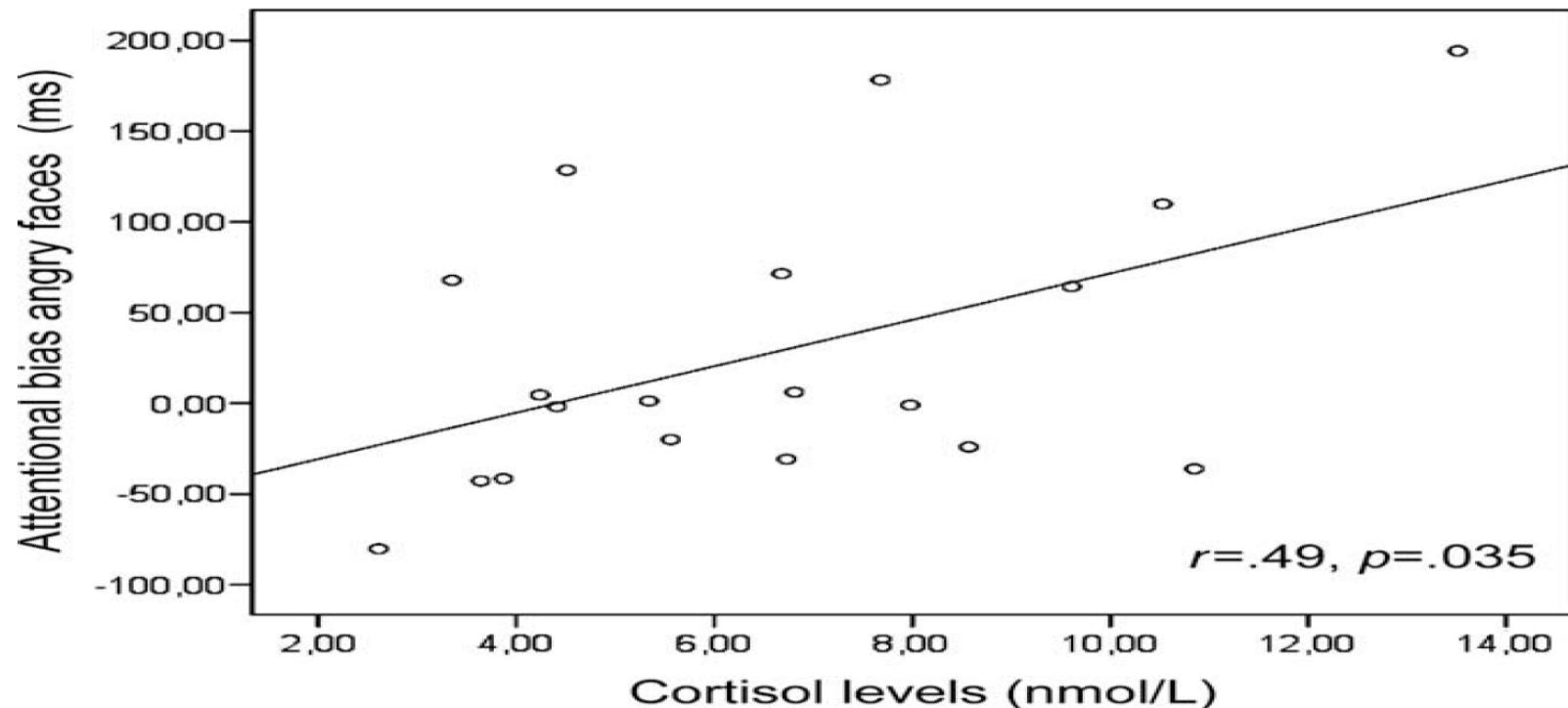


Fig. 2. Correlation between pretask cortisol levels and attentional bias (AB) scores for angry faces in patients with psychogenic nonepileptic seizures (PNES).

THE CROONIAN LECTURES ON
THE PSYCHOLOGY
OF THE
SPECIAL SENSES
AND THEIR
FUNCTIONAL DISORDERS

DELIVERED BEFORE THE ROYAL COLLEGE OF
PHYSICIANS IN JUNE 1920

BY
ARTHUR F. HURST
M.A., M.D. Oxon, F.R.C.P.

PHYSICIAN AND NEUROLOGIST TO GUY'S HOSPITAL

Babinski went so far as to state that there is no such thing as hysterical anæsthesia, apart from that produced by the suggestion of the observer. In a paper on the subject published in 1908 [¹] I accepted Babinski's teaching without reservation, but from time to time since then I have seen cases in which hysterical anæsthesia appeared to have developed without any possibility of hetero-suggestion by a second person. These isolated cases remained unexplained

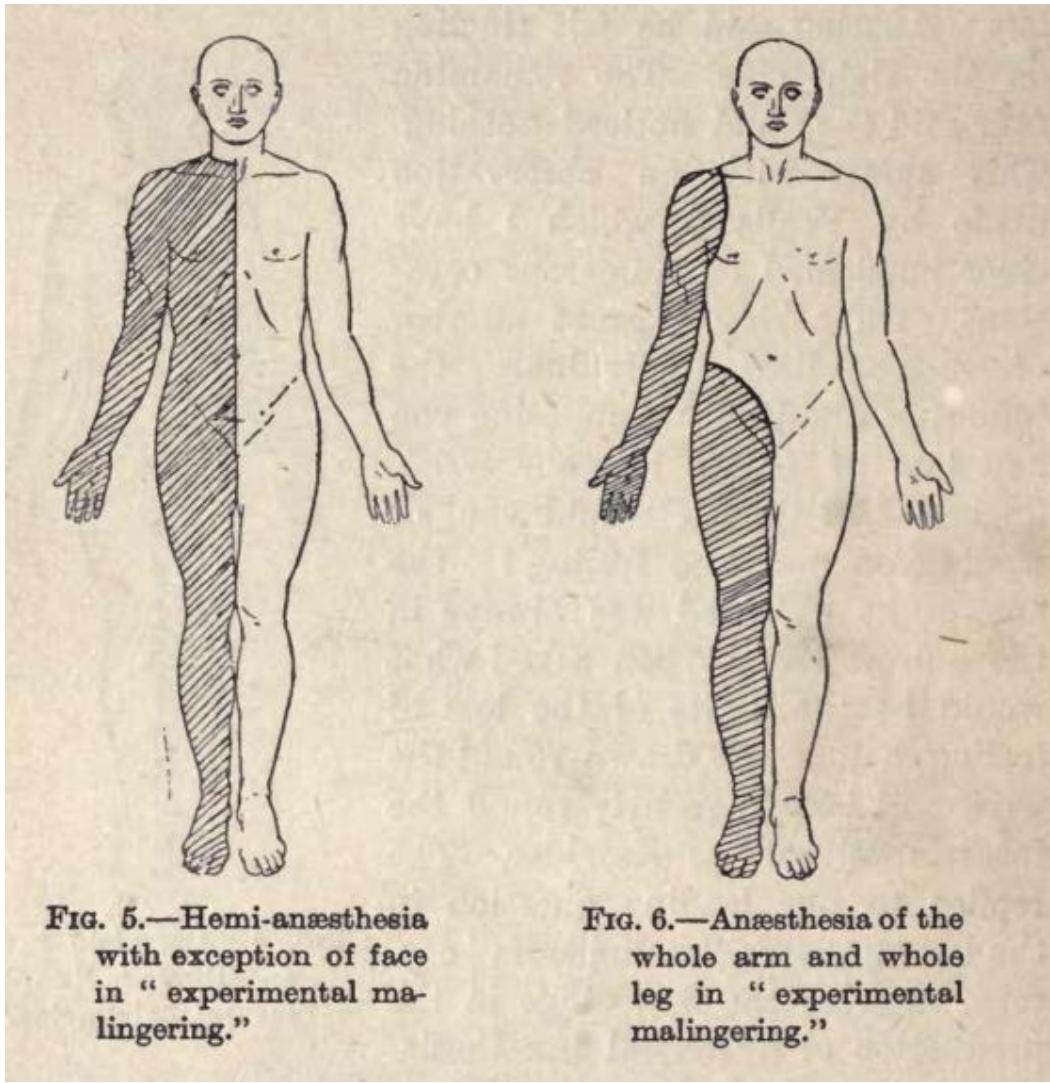


FIG. 5.—Hemi-anæsthesia
with exception of face
in "experimental ma-
ligner."

FIG. 6.—Anæsthesia of the
whole arm and whole
leg in "experimental
malingering."

Cognitive representation of symptoms

CORE BELIEFS

- **IDENTITY** **What is this? (symptom + label)**
- **CAUSE** **What caused this?**
- **TIMELINE** **How long will it last? (acute/chronic)**
- **CONSEQUENCES** **What will happen as a result of this? (trivial/serious effects on life)**
- **CURE / CONTROL** **What will make it better?**

Cognitive distortions-

Symptom perception: 3 key processes

■ SYMMETRY RULE

- symptoms activate labels
- labels influence symptom search/report
(eg False BP; TAA enzyme; Eclipse etc.)

■ IF / THEN RULES

- cog. representations guide behaviour

■ SYMPTOM MONITORING AS COPING APPRAISAL

- change in symptoms provides feedback re. coping
- may result in re- appraisal of symptoms

Movement disorders

SHORT REPORT

'Jumping to conclusions' bias in functional movement disorders

Isabel Pareés,¹ Panagiotis Kassavetis,¹ Tabish A Saifee,¹ Anna Sadnicka,¹ Kailash P Bhatia,¹ Aikaterini Fotopoulou,² Mark J Edwards¹

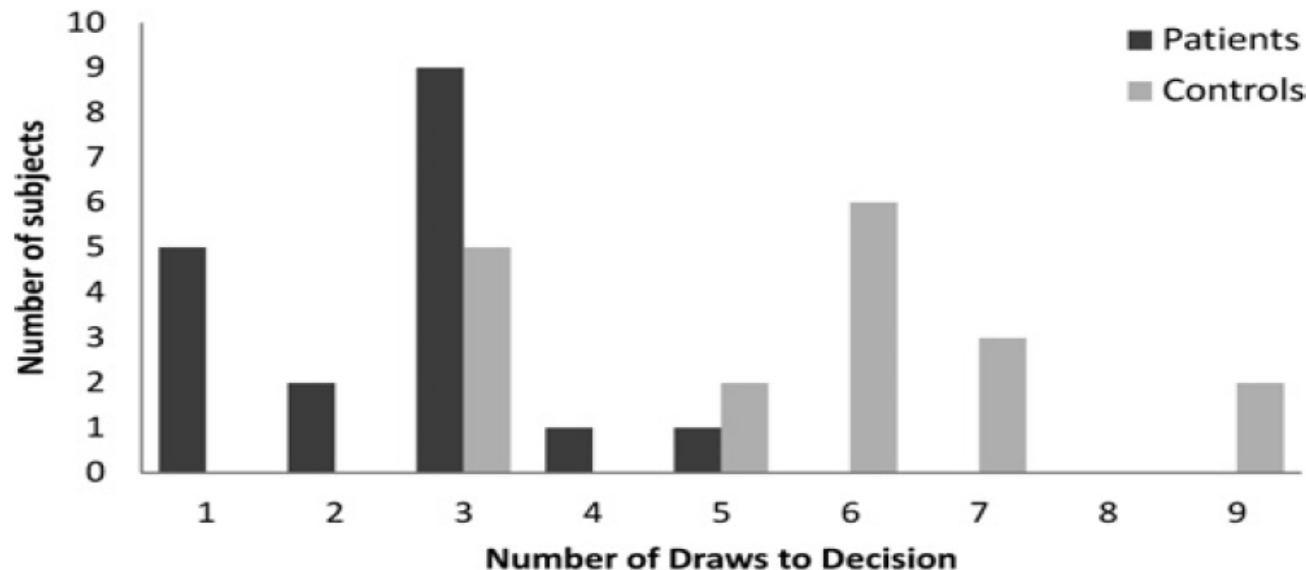


Figure 1 Number of draws to decision for patients and controls in condition 1.

Dissociative Symptoms

DEREALISATION

- “I felt... like I was there but not there....in a place of my own....detached from my surroundings”

DEPERSONALISATION

- My legs/ body didn't feel like they belonged to me...like I was outside myself?

308 Practical Neurology

Downloaded from practicalneurology.com on 26 October 2006

NEUROLOGICAL SYMPTOM

Practical Neurology 2006; 6:308-313

Dissociation: what is it and why is it important?

Jon Stone



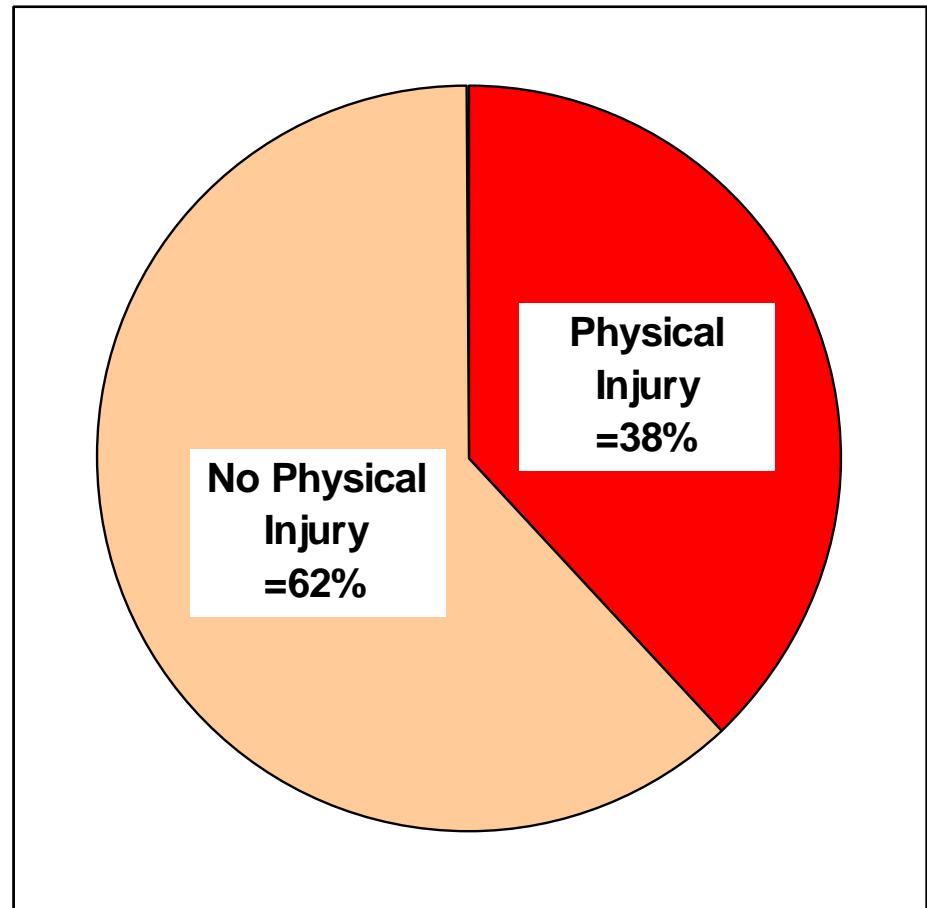
Dr J Stone
Consultant Neurologist and
Honorary Senior Lecturer,
Department of Clinical
Neurosciences, Western General
Hospital, Crewe Road, Edinburgh
EH4 2XU, UK; jon.stone@ed.ac.uk
www.johnstone.org

Dissociation

- Detachment
 - Psychologically protective, neurobiological mechanism that allows ‘withdrawal’ from harmful situations
- Compartmentalisation
 - Disruption of the normal integration of cognitive functions such that they work independently of each other

Does physical injury commonly precede functional motor and sensory symptoms? Systematic Review

- 150 case reports / series
- Overall 38% (351/922) were reported to have a physical injury
- Nature of Injuries
 - RTA
 - Falls
 - Minor Injury
 - Sporting Injury
 - Ankle Sprain
 - Assault





SHORT REPORT

Functional weakness: clues to mechanism from the nature of onset

Jon Stone,¹ Charles Warlow,¹ Michael Sharpe²

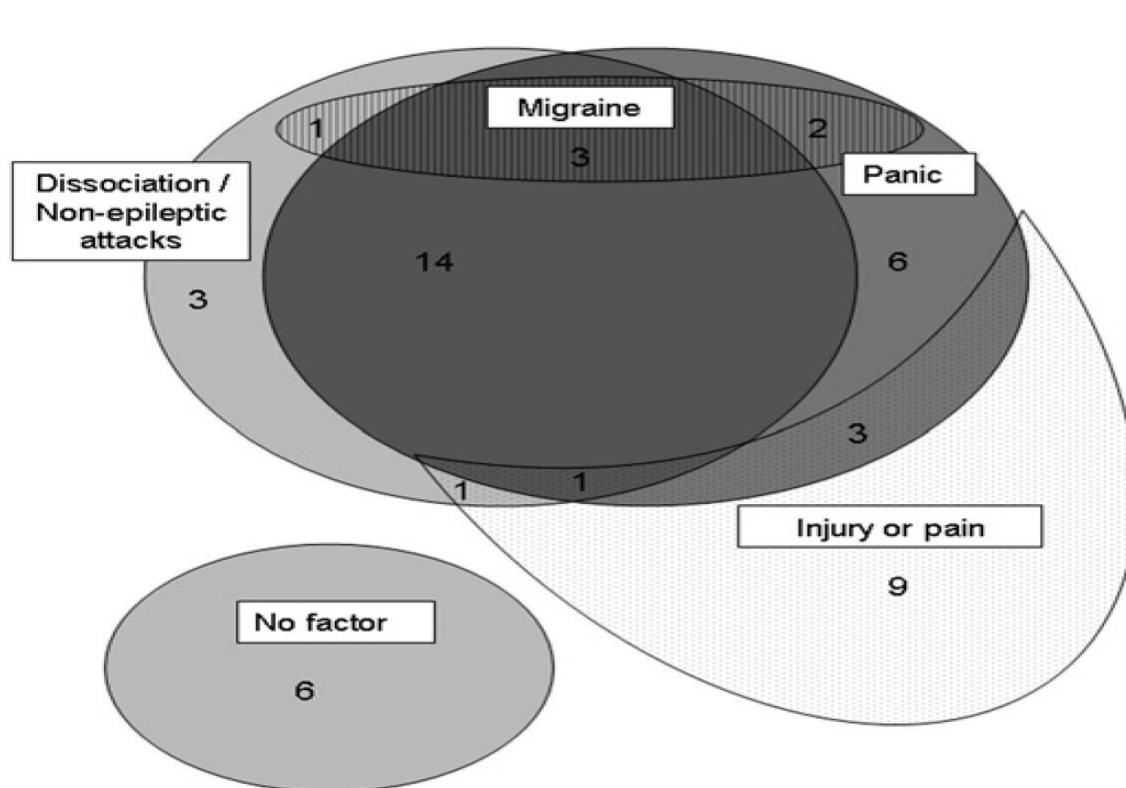


Figure 1 Overlap of associated symptoms associated with onset of functional weakness in patients with sudden onset of symptoms (n=49). Numbers represent absolute numbers of patients (diagram only roughly to scale).

Movement disorders

SHORT REPORT

'Jumping to conclusions' bias in functional movement disorders

Isabel Pareés,¹ Panagiotis Kassavetis,¹ Tabish A Saifee,¹ Anna Sadnicka,¹ Kailash P Bhatia,¹ Aikaterini Fotopoulou,² Mark J Edwards¹

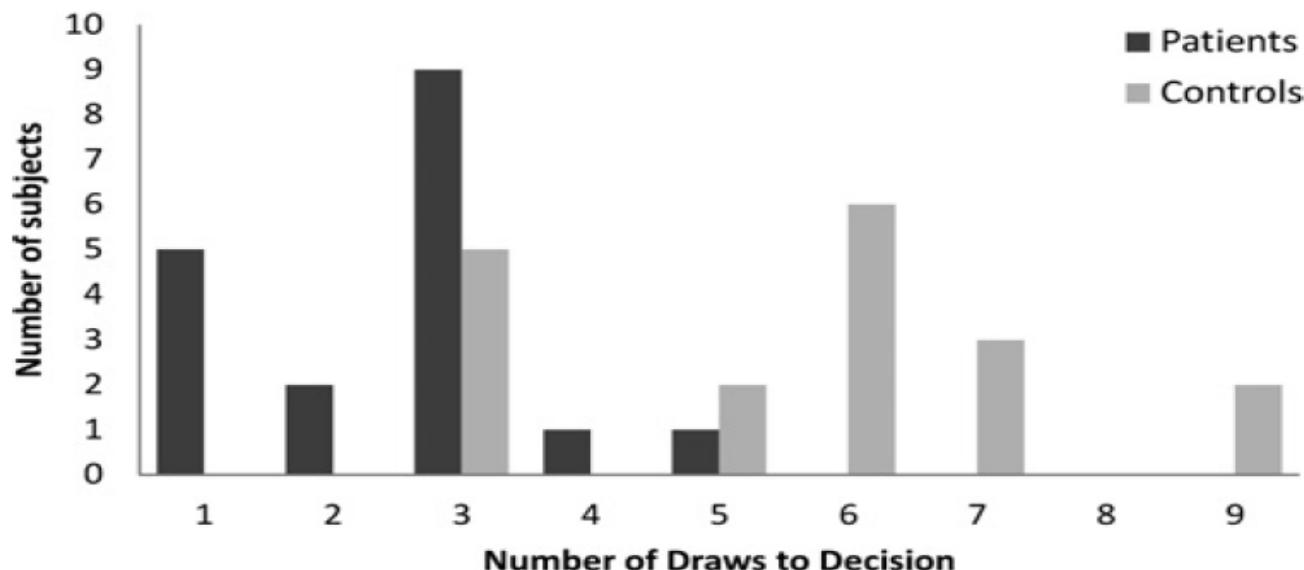


Figure 1 Number of draws to decision for patients and controls in condition 1.

The role of anxiety

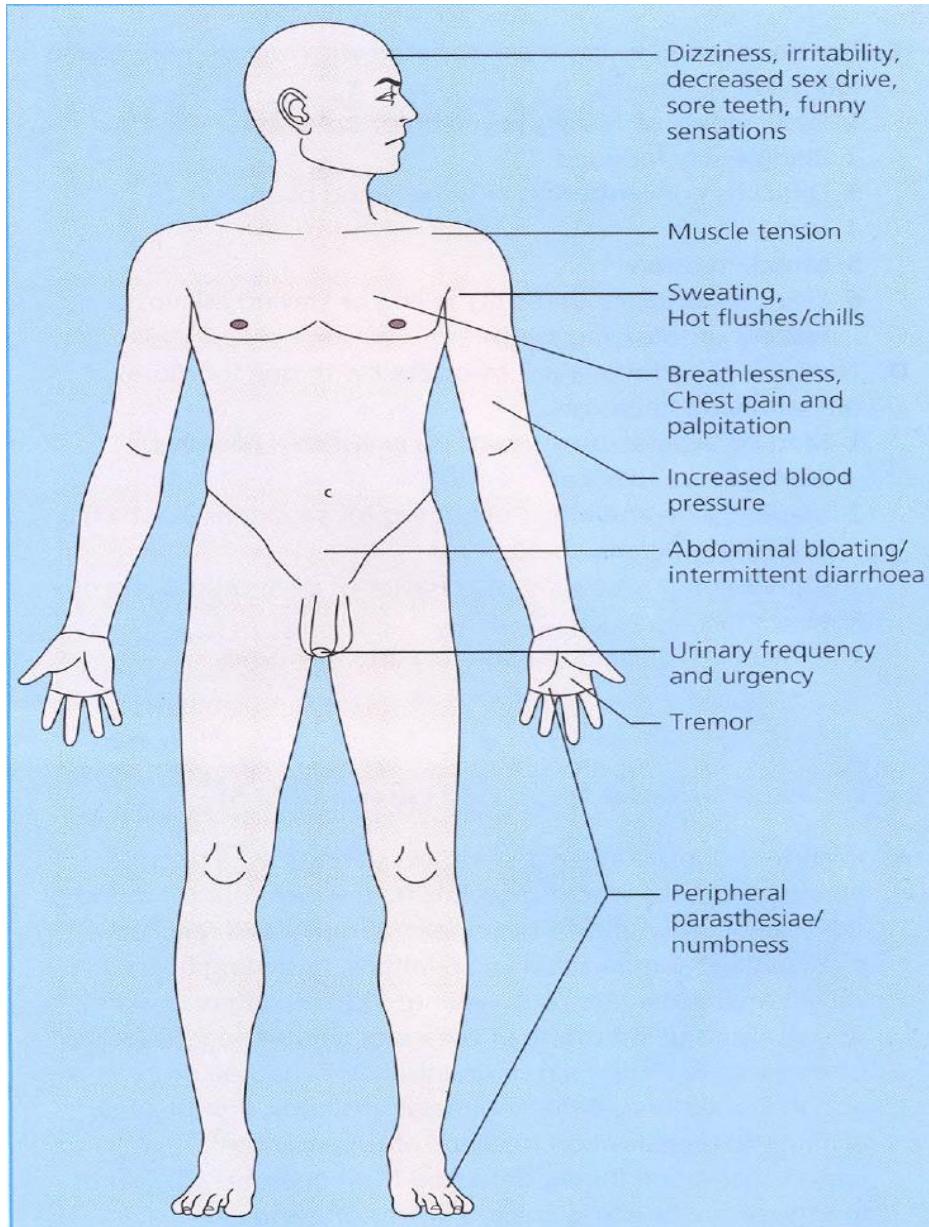


Figure 4.3 Somatic complaints raising the suspicion of anxiety.

Reframing questions on anxiety

Do you often find yourself feeling worried about your symptoms?

Do you often feel on edge or tense about things?

Do you ever feel like you can't keep a lid on that worry?

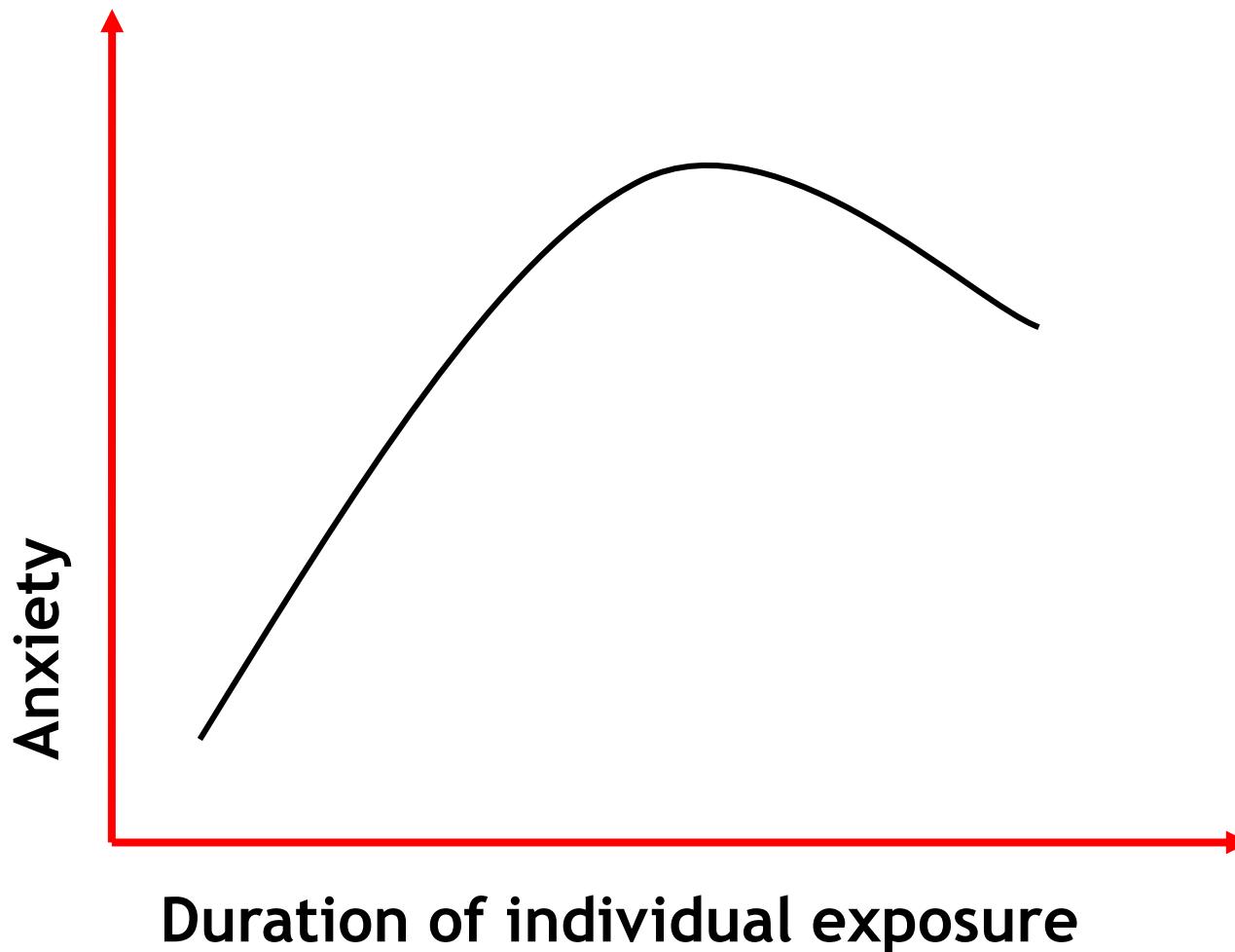
Do you ever get lots of physical symptoms all at once?

Is it frightening when that happens?

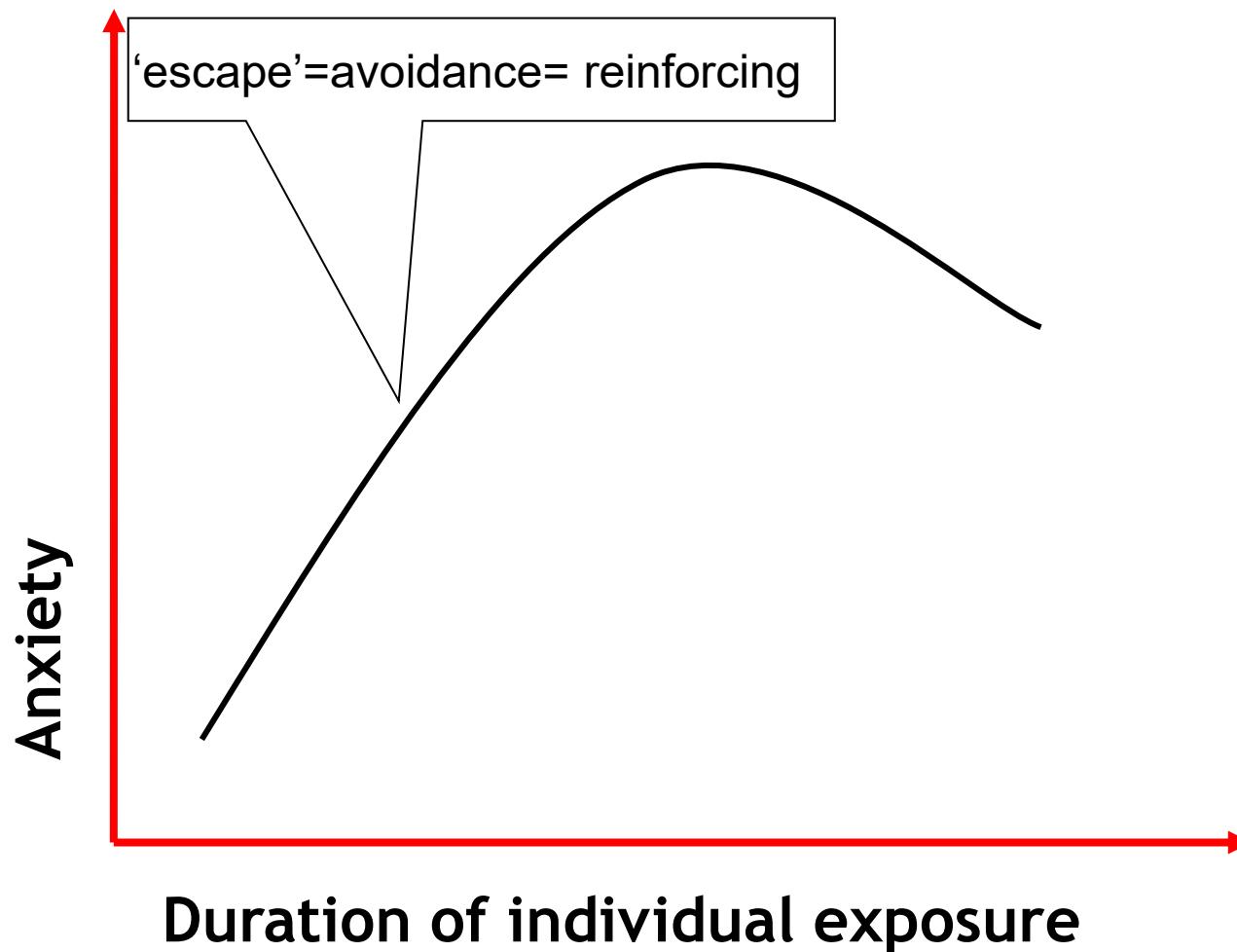
Key ψ dx issue- phobic v generalised



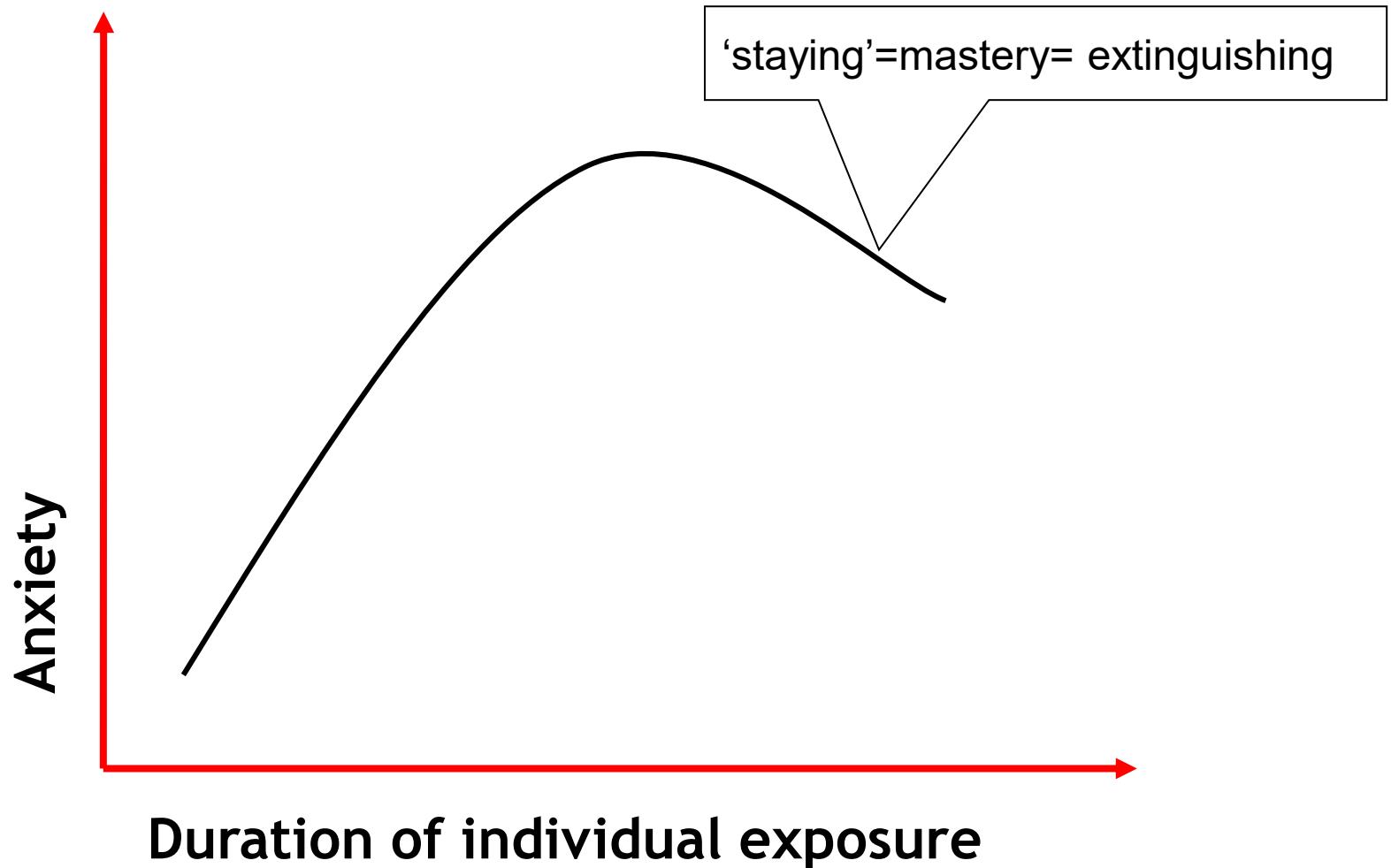
‘Reward’ can be relief of suffering



'Reward' can be relief of suffering



'Reward' can be relief of suffering





Rehabilitative therapies for chronic fatigue syndrome: a secondary mediation analysis of the PACE trial



Trudie Chalder*, Kimberley A Goldsmith*, Peter D White, Michael Sharpe, Andrew R Pickles

Summary

Background Cognitive behaviour therapy (CBT) added to specialist medical care (SMC), or graded exercise therapy (GET) added to SMC, are more effective in reducing fatigue and improving physical function than both adaptive pacing therapy (APT) plus SMC and SMC alone for chronic fatigue syndrome. We investigate putative treatment mechanisms.

Lancet Psychiatry 2015;

2: 141–52

Published Online

January 14, 2015

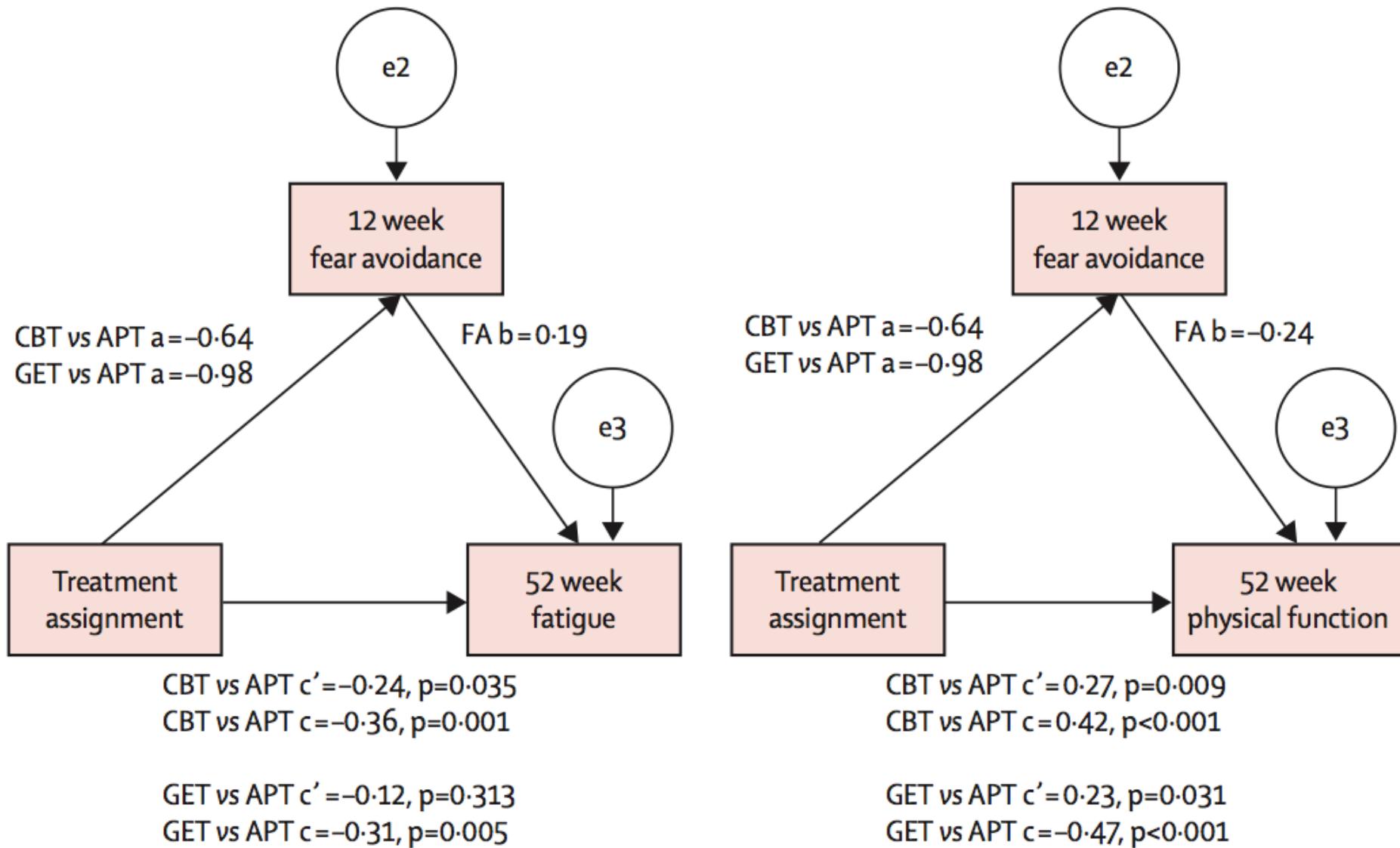
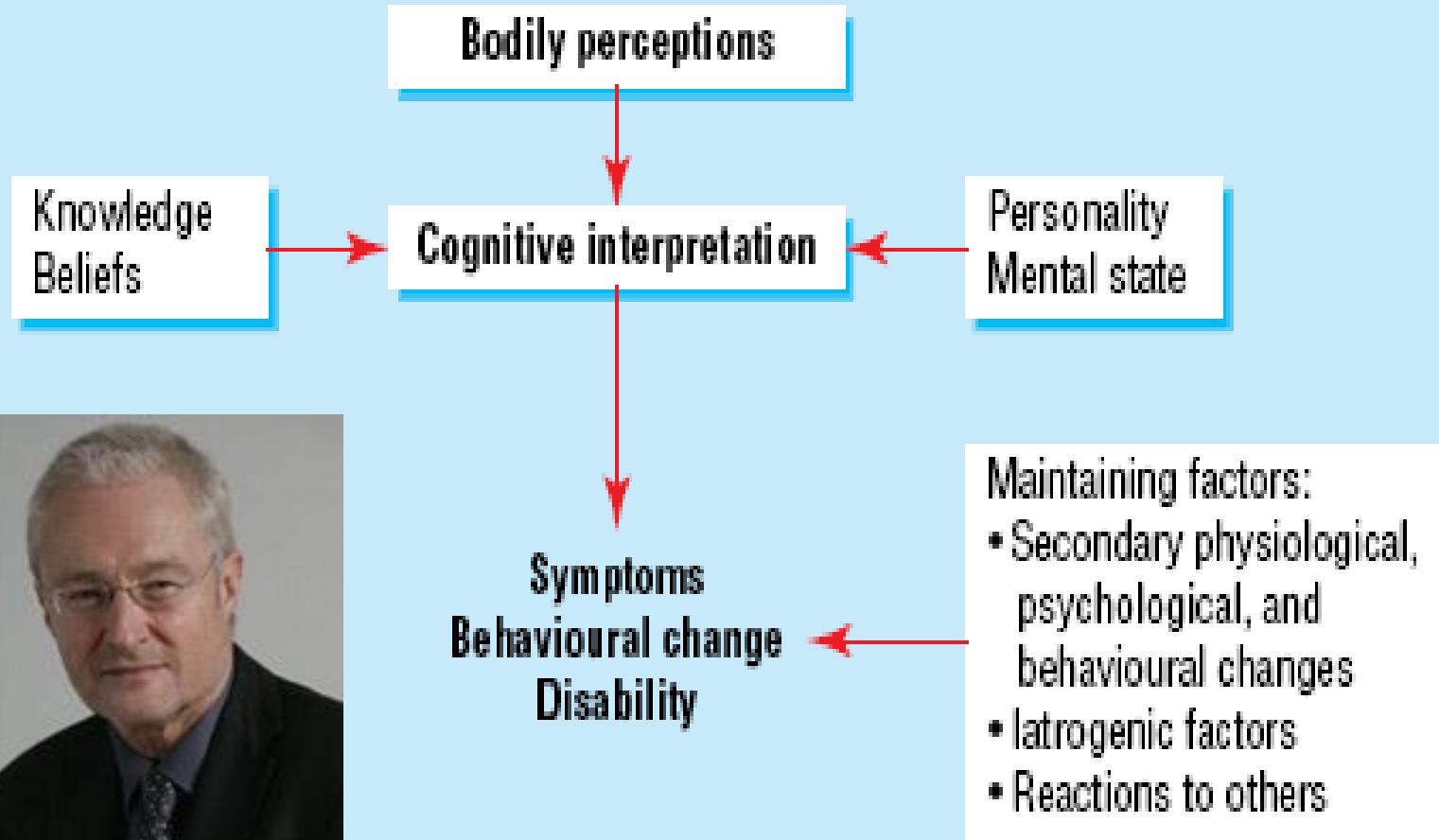


Figure 7: Standardised effects in mediation models through fear avoidance beliefs

Common phobic anxieties

- Fear of falling
 - Action keep them upright until this anxiety starts to settle- or if not feasible agree a programme of increasing desensitisation- education key
- Fear of damage
 - Psychoeducation, working through increases in symptoms, making links to other cues, diary keeping.
- Fear of collapse
 - addressing cognitive bias, catastrophic thinking, what fears of might happen- consequences versus what did actually happen and the disability of self imposed non-participation
- Fear of fear
 - Avoidance behaviour based around expectation of unpleasant symptoms leading to avoidance of bodily parts
- Fear of not being believed
 - Best helped by the demonstration of knowledge- patients quickly realise who knows their stuff and who is busking

Cognitive behavioural model



LETTER

The unbearable lightheadedness of seizing: wilful submission to dissociative (non-epileptic) seizures

Research on the subjective experience of dissociative (psychogenic non-epileptic) seizures (DS) is dominated by that on objective semiology.^{1,2} Patients with DS tend not to spontaneously volunteer any warning symptoms, nor feelings of resistance to seizure onset, both of which are more common in epilepsy.³ But when an 'aura' is sought, studies in DS have found rates of 25–60%,^{4–7} typically with somatic symptoms of autonomic arousal such as dizziness.

over time. Some patients described a more low grade uncomfortable feeling that could last several hours, which they knew from experience would be relieved by a seizure, again giving them a feeling that they wanted the seizure to happen in order to feel temporarily better.

Seizure prodromes and especially 'wilful submission' were generally described by the patient only after prompting and after several clinic visits. The common theme was that the rising somatic and cognitive symptoms were so intolerable that it was preferable to make a conscious choice to pass out rather than to put up with it.

Many patients described the sense of conflict that arose from the paradox of seeking help for the attacks to stop, whilst being aware that in an acute situation they wanted the attack to 'hurry up' to obliterate their unpleasant sensations. In contrast

It is not difficult to see how dissociative attacks could, in this situation, become a learnt conditioned response in which the 'reward' of the attack is the relief of symptoms. This model also helps to understand why warnings of attacks shorten and disappear over time in some patients. Attacks that subsequently occur without warning may simply represent the conditioned response without the stimulus.

We believe that some patients' knowledge of complicity in seizure production, but a simultaneous feeling of distress about having the attack, leads to particular anxiety and sensitivity around this issue, including a marked reluctance to reveal it to their treating clinicians. This may explain why patients with dissociative attacks are so characteristically silent when asked about their symptoms.³

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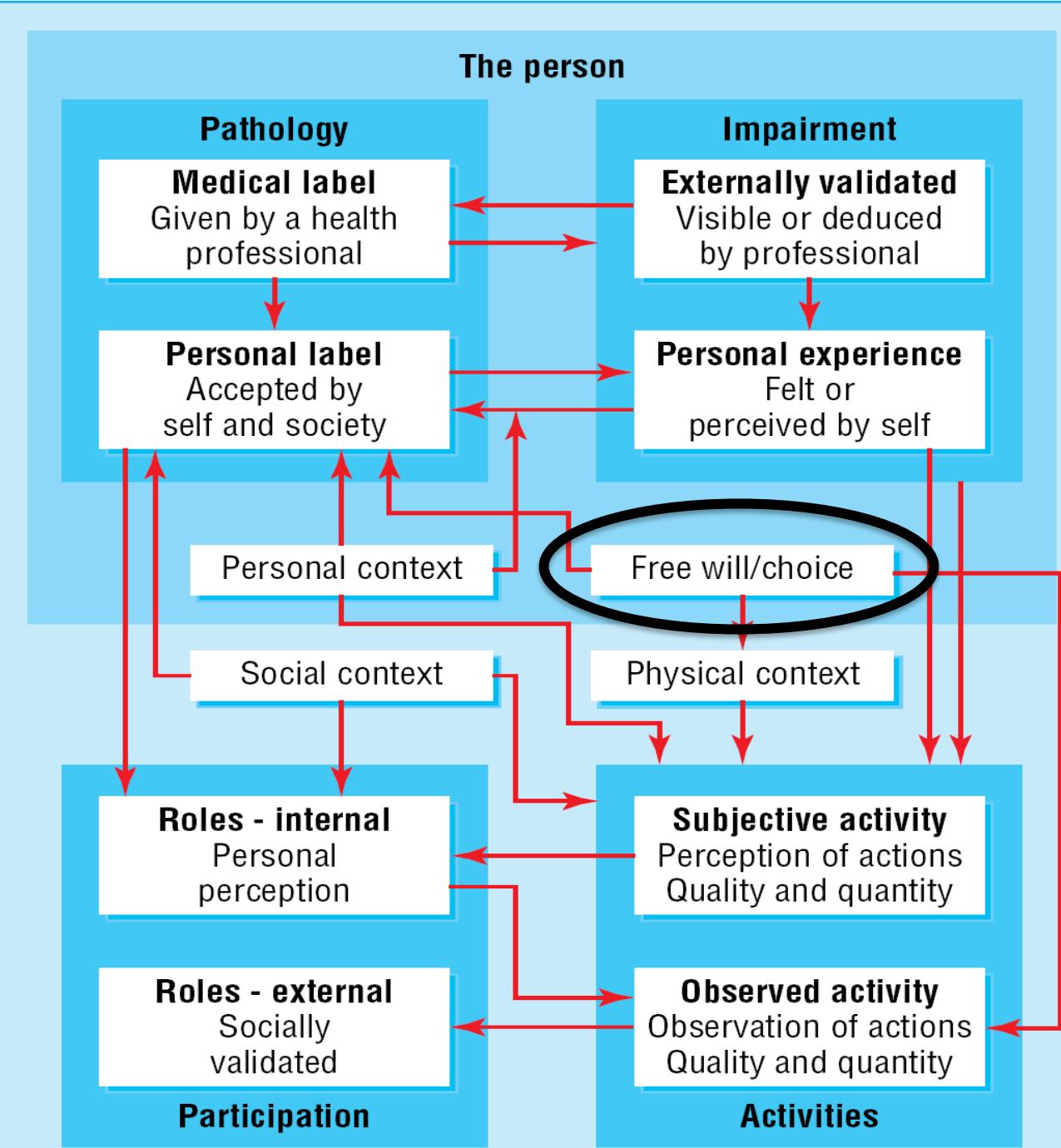
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SHORT REPORT

Grey matter changes in motor conversion disorder

Selma Aybek,^{1,2} Timothy R J Nicholson,¹ Bogdan Draganski,^{2,3,4} Eileen Daly,⁵ Declan G Murphy,⁵ Anthony S David,¹ Richard A Kanaan¹

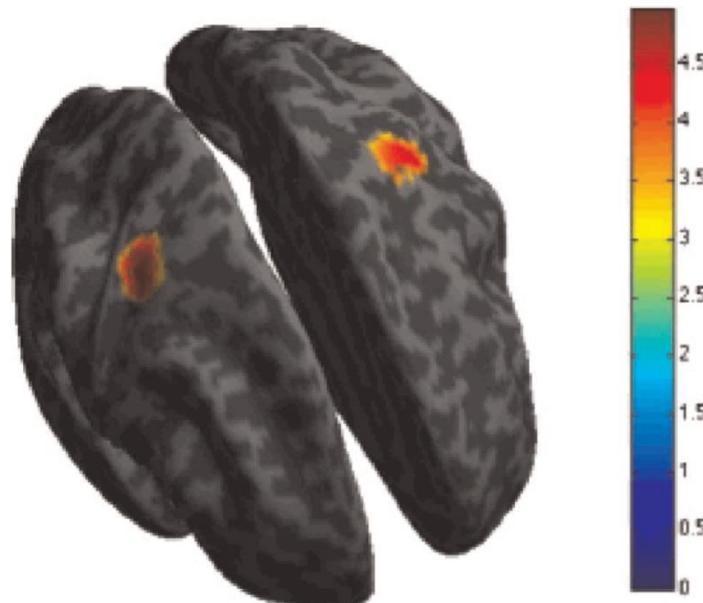


Figure 1 Statistical parametric map of differences between conversion disorder patients with hemiparesis and healthy controls based on voxel-based cortical thickness showing a significant increase of cortical thickness in bilateral premotor cortex (in red) in patients.

Acute CRPS

After treatment

A

CRPS
side

0.8 cm

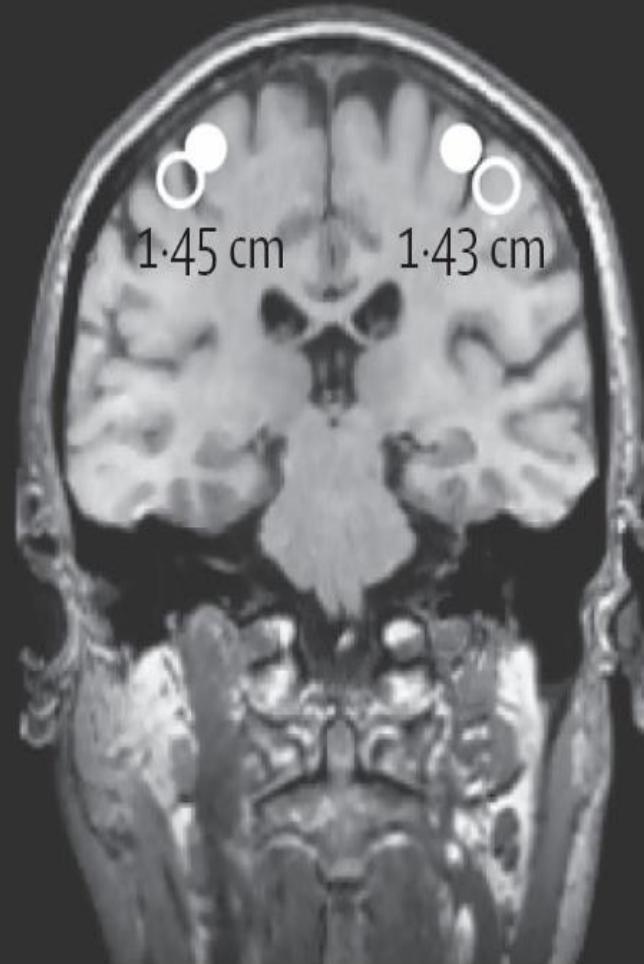
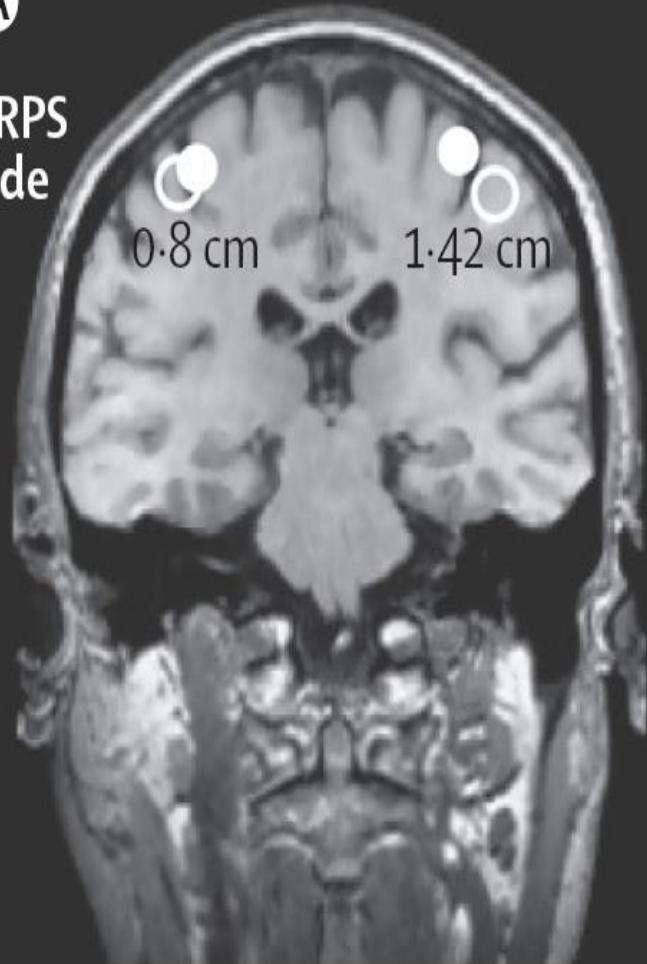
1.42 cm

D1 and D5

1.45 cm

1.43 cm

Control
side



An explanatory model

- Disorder of sensori-motor processing in which erroneous health beliefs/ expectations distort an, often noxious, somato-sensory experience. This process is facilitated by misdirected and overly precise attention, anxiety and dissociation. The symptom formation helps ‘make sense’ of the somatic experience. The patient can be either consciously or pre-consciously complicit in it.
- Once present it can be perpetuated by maladaptive behavioural responses, both operant & classical learning, mood disorder and CNS plasticity.
- Patients who have pre-existent mood/ anxiety problems, excessive threat vigilance or certain obsessive or rigid cognitive styles are more vulnerable

Physiotherapy

- Disorder of **sensori-motor processing** in which erroneous health beliefs/ expectations distort an, often noxious, somato-sensory experience. This process is facilitated by misdirected and overly **precise attention**, anxiety and dissociation. The symptom formation helps 'make sense' of the somatic experience. The patient can be either consciously or pre-consciously complicit in it.
- Once present it can be perpetuated by maladaptive **behavioural responses**, both operant & classical **learning**, mood disorder and **CNS plasticity**.
- Patients who have pre-existent mood/ anxiety problems, excessive threat vigilance or certain obsessive or rigid cognitive styles are more vulnerable

Cognitive behavioural therapy

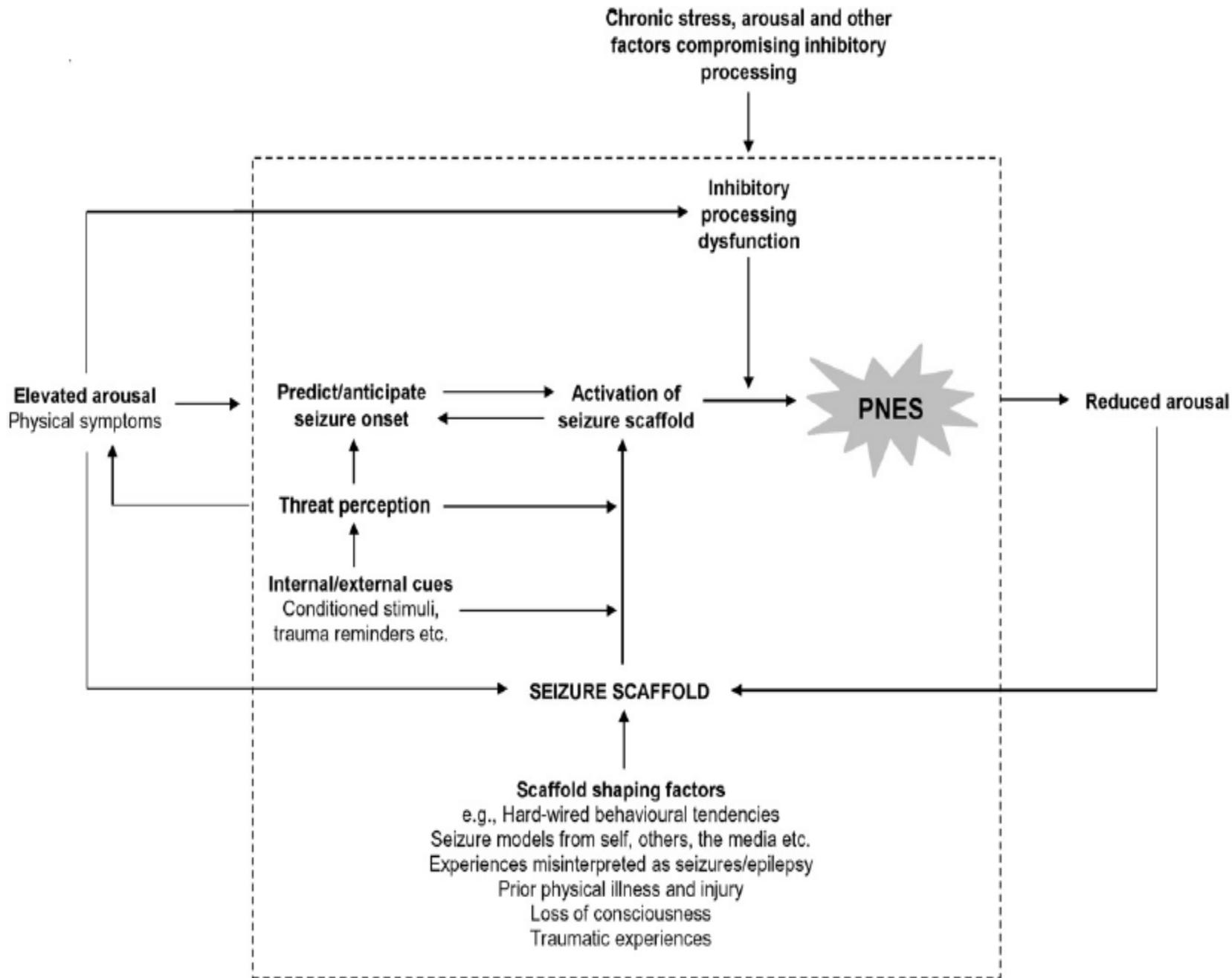
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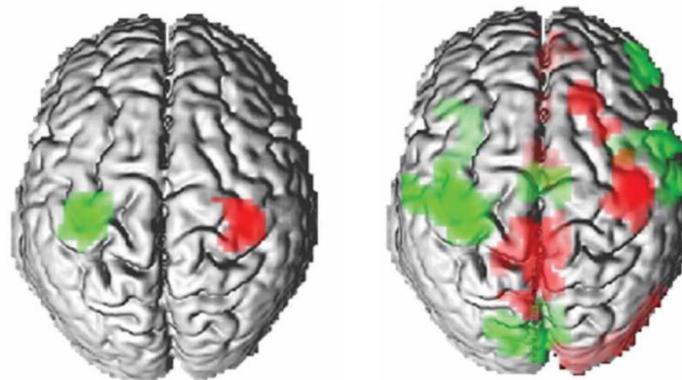
Novel treatments

- Disorder of **sensori-motor processing** in which erroneous health beliefs/ expectations distort an, often noxious, somato-sensory experience. This process is facilitated by misdirected and overly precise attention, anxiety and dissociation. The symptom formation helps ‘make sense’ of the somatic experience. The patient can be either consciously or pre-consciously complicit in it.
- Once present it can be perpetuated by maladaptive behavioural responses, both operant & classical **learning**, mood disorder and **CNS plasticity**.
- Patients who have pre-existent mood/ anxiety problems, excessive threat vigilance or certain obsessive or rigid cognitive styles are more vulnerable

Drug therapies

- Disorder of **sensori-motor processing** in which erroneous health beliefs/ expectations distort an, often noxious, somato-sensory experience. This process is facilitated by misdirected and overly precise attention, **anxiety** and **dissociation**. The symptom formation helps 'make sense' of the somatic experience. The patient can be either consciously or pre-consciously complicit in it.
- Once present it can be perpetuated by maladaptive behavioural responses, both operant & classical **learning**, **mood disorder** and **CNS plasticity**.
- Patients who have pre-existent **mood/ anxiety** problems, excessive threat vigilance or certain **obsessive** or rigid cognitive styles are more vulnerable





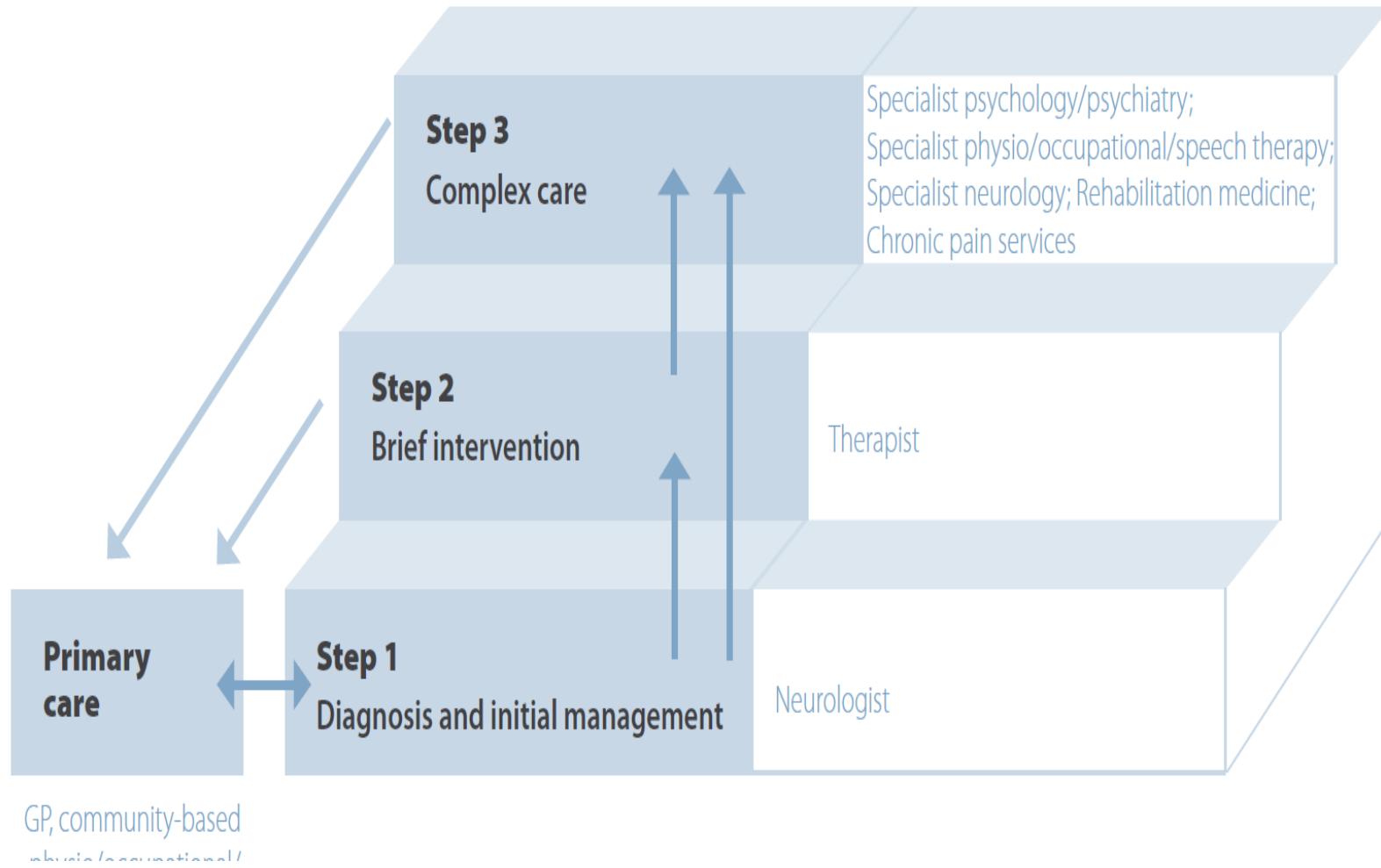
Stepped care for functional neurological symptoms

A new approach to improving outcomes for a common neurological problem in Scotland

Report and recommendations

February 2012

Figure 1: Proposed model of stepped care for functional neurological symptoms as described in this document



The economic impact of functional neurological symptoms

People typically develop functional neurological symptoms in their twenties and thirties, ie working age. The Scottish Neurological Symptoms Study found that 27% of patients with symptoms unexplained by disease were not working for health reasons, incurring high social costs as well as a high consumption of healthcare⁶ estimated as approximately:

- £1.3 million per year for outpatients,
- £6.01 million for inpatients (including 13,887 bed days), and
- £4.01 million for primary care.

Guided self-help for functional (psychogenic) symptoms

A randomized controlled efficacy trial



M. Sharpe, MD
J. Walker, MBChB
C. Williams, MD
J. Stone, PhD
J. Cavanagh, MD
G. Murray, PhD
I. Butcher, PhD
R. Duncan, MD, PhD
S. Smith, PhD
A. Carson, MD

ABSTRACT

Objectives: Functional (psychogenic or somatoform) symptoms are common and often persistent. Cognitive-behavioral therapy (CBT) can be an effective treatment, but its provision in practice is limited due to time constraints. We tested the hypothesis that adding guided self-help (GSH) to the usual care (UC) received by patients improves outcomes.

Methods: We conducted a randomized trial in 2 neurology services. Patients with functional symptoms (rated by the neurologist as "not at all" explained by organic disease) were randomly allocated to UC or UC plus GSH. GSH consisted of 10 individual and 4 half-hour guidance sessions. The primary outcome was self-rated global improvement scale (CGI) at 3 months. Secondary outcomes were

Results: In this trial, 127 participants were enrolled, and primary outcome data were available for 125. Participants allocated to GSH reported greater improvement than those allocated to UC (mean difference 1.2 points on a scale from 0 to 4; 95% confidence interval 0.4 to 2.0; P = .001).

overcoming functional neurological symptoms

a five areas approach

- CBT workbooks
- Written by experts
- Proven to work
- Step-by-step success
- Advice for friends and family

www.livinglifetothefull.com
www.fiveareas.com



Professor Christopher Williams
Catriona Kent
Dr Sharon Smith
Dr Alan Carson
Professor Michael Sharpe
Dr Jonathan Cavanagh

Figure 1 Flow of patients

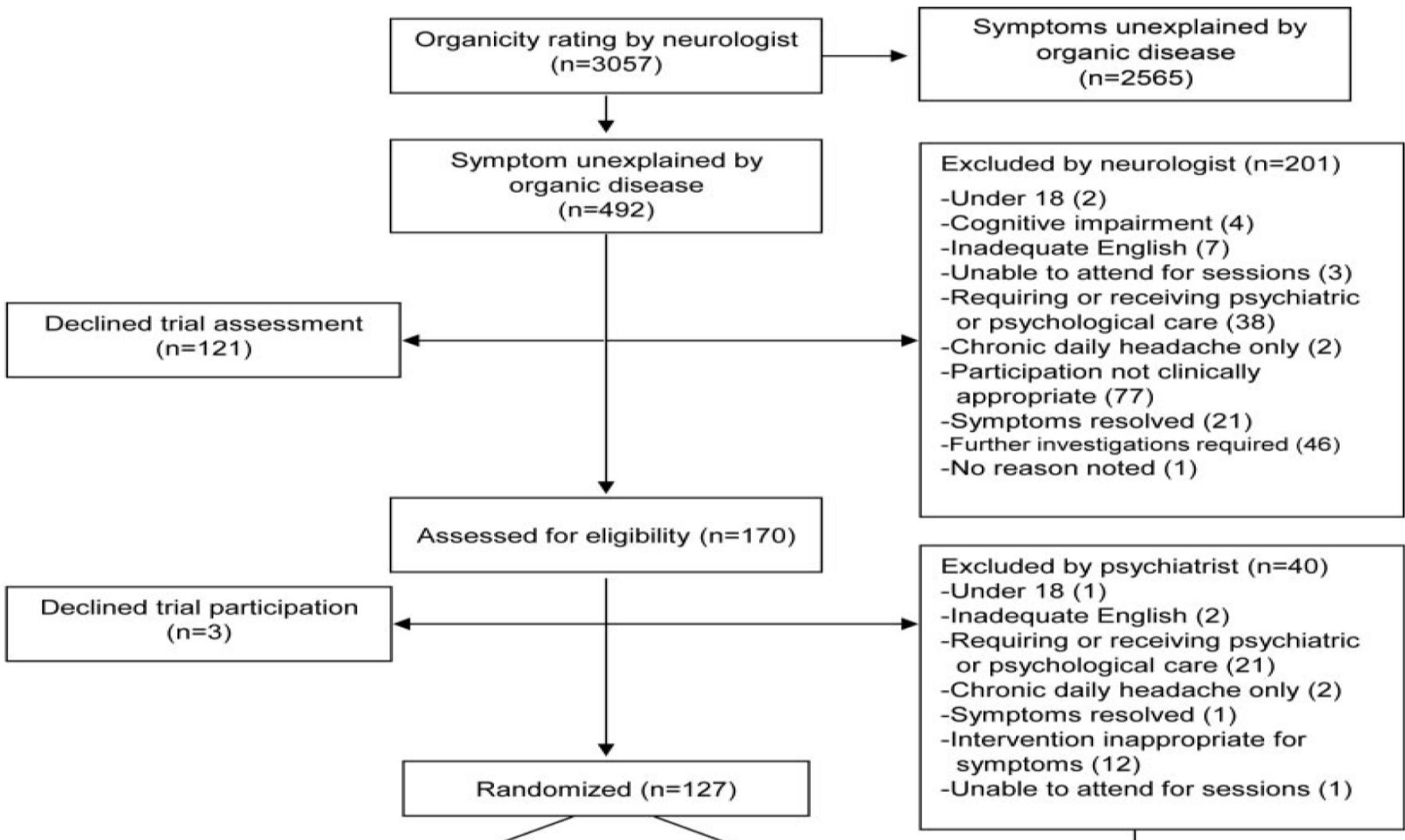
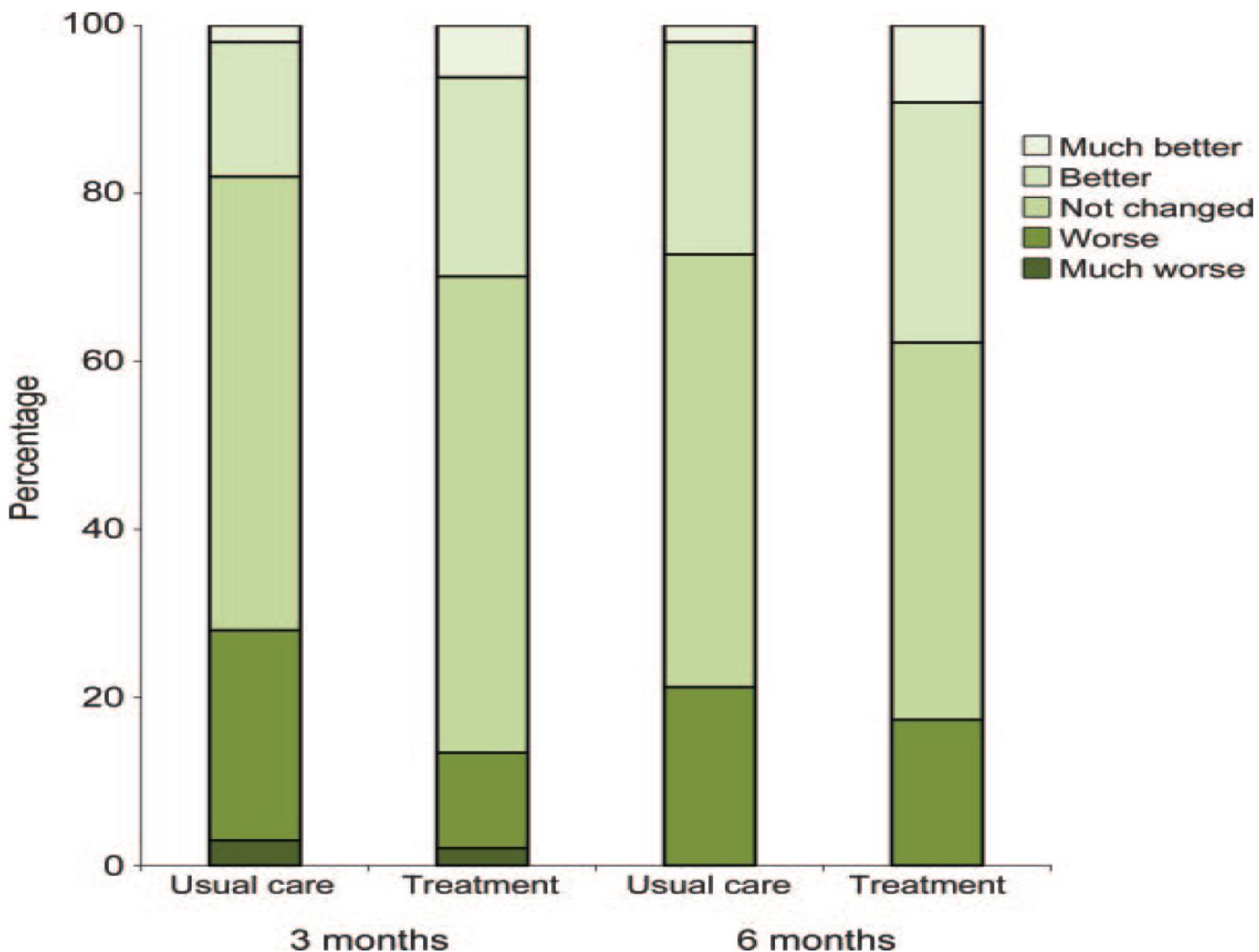


Figure 2

Self-rated change in overall health (CGI). Relative frequencies and treatment group at 3 and 6 months





COgnitive Behavioural Therapy for Dissociative (Non-Epileptic) Seizures

A Randomised Controlled Trial

[HOME](#)[DISSOCIATIVE SEIZURES](#)[CODES TRIAL](#)[TRIAL TEAM](#)[CENTRES](#)[FAQ](#)[LINKS](#)[CONTACT](#)[LOG IN](#)

The CODES trial is a randomised controlled study looking at a treatment for **Dissociative (Non-Epileptic) Seizures**.

Dissociative Seizures are attacks that look like epilepsy, typically with a blackout. The person may have shaking movements or fall down and lie still. Dissociative Seizures are genuine, common and distressing for patients and those around them.

The CODES trial is testing whether a type of talking treatment, Cognitive Behavioural Therapy (CBT), helps patients with Dissociative Seizures.

The trial, funded by **NIHR (National Institute of Health Research)**, is designed to find out whether CBT is worth having in addition to standardised medical care. It could be that it is, it might be that it isn't - that is what the trial is designed to find out.

Read more on this site, for **patients**, and **health professionals**.

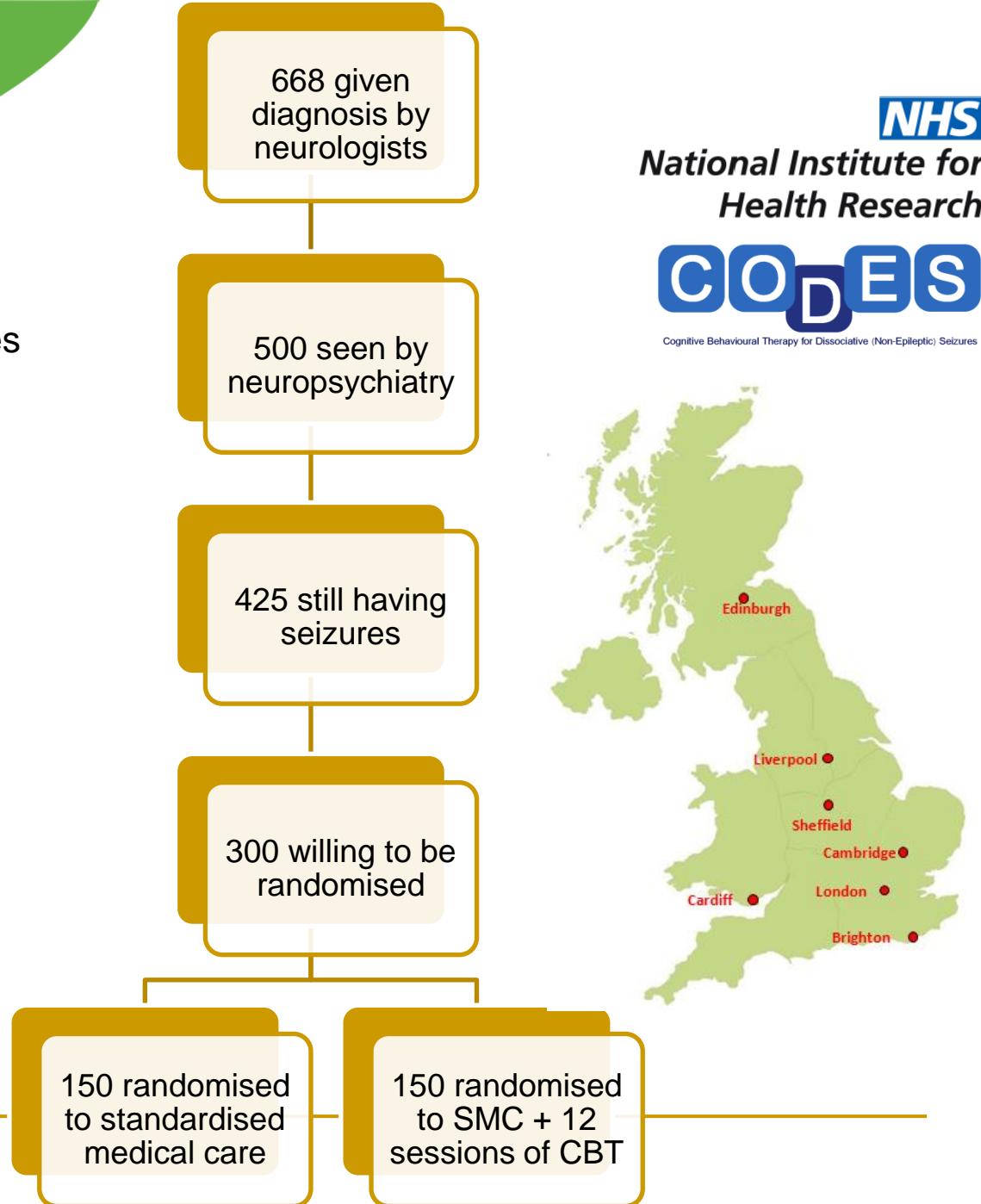
[The CODES trial](#)[Dissociative Seizures?](#)[The Investigators](#)[Centres involved](#)

Cognitive Behavioural Therapy for Dissociative Non-Epileptic Seizures
£2.1m
RCT of
12 sessions of CBT + Standard Medical Care vs Standard Medical Care
Sample Size 298

Primary outcome – Seizure frequency at 12 months

Secondary outcomes

- Clinical global change
- Seizure severity, freedom, QOL
- Health care use
- Cost effectiveness
- Patient experience of treatment



GREY MATTER**The body electric*: a long view of electrical therapy for functional neurological disorders****Laura McWhirter,¹ Alan Carson² and Jon Stone³**¹ Department of Psychological Medicine, Edinburgh Royal Infirmary, Little France Crescent, Edinburgh EH16 4SA, UK² Departments of Rehabilitation Medicine and of Clinical Neurosciences and University Department of Psychiatry, Royal Edinburgh Hospital, Tipperlinn Road, Edinburgh EH10 5HF, UK³ Royal Edinburgh Hospital, Crewe Rd, Edinburgh EH4 2XU, UKDownloaded from jnpn.bmjjournals.com on April 9, 2015 - Published by group.bmjjournals.com

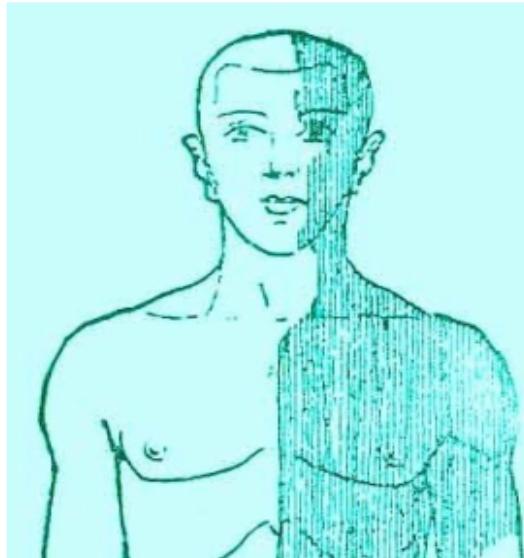
Online First, published on January 8, 2013 as 10.1136/jnpn-2012-304181

Neuropsychiatry**REVIEW****A systematic review of transcranial magnetic stimulation in the treatment of functional (conversion) neurological symptoms****Thomas A Pollak,¹ Timothy R Nicholson,¹ Mark J Edwards,² Anthony S David¹**

Functional and Dissociative Neurological Symptoms : a patient's guide



Welcome **Symptoms** Causes



How to use this website ...

Most people with functional or dissociative combination of symptoms like "weakness, sleep problems"

Click on a symptom on the right or use the [symptoms](#) that are relevant to you.

Click on '[Causes](#)' to discover what is known

- what is going wrong in the body when
- why people become vulnerable to these

Click on '[Misdiagnosis](#)' to find out how likely

Click on '[Am I imagining it?](#)' for some answers



Cases Guestbook

ts)

e symptoms and conversion symptoms) but are often

difficult for patients and health professionals to

rest in these problems, aims to give you a better
and does not make any money for the author.

ns ...

[Weakness / Paralysis](#)

[Tremor / Movements](#)

[Fainting / Attacks](#)

[Spasms](#)

[Memory Symptoms](#)

[Walking Problems](#)

[Pain](#)

[Word Finding Difficulty](#)

[Fatigue / Sleepiness](#)

[Slurred Speech](#)

[Sleep Problems](#)

[Bladder Symptoms](#)

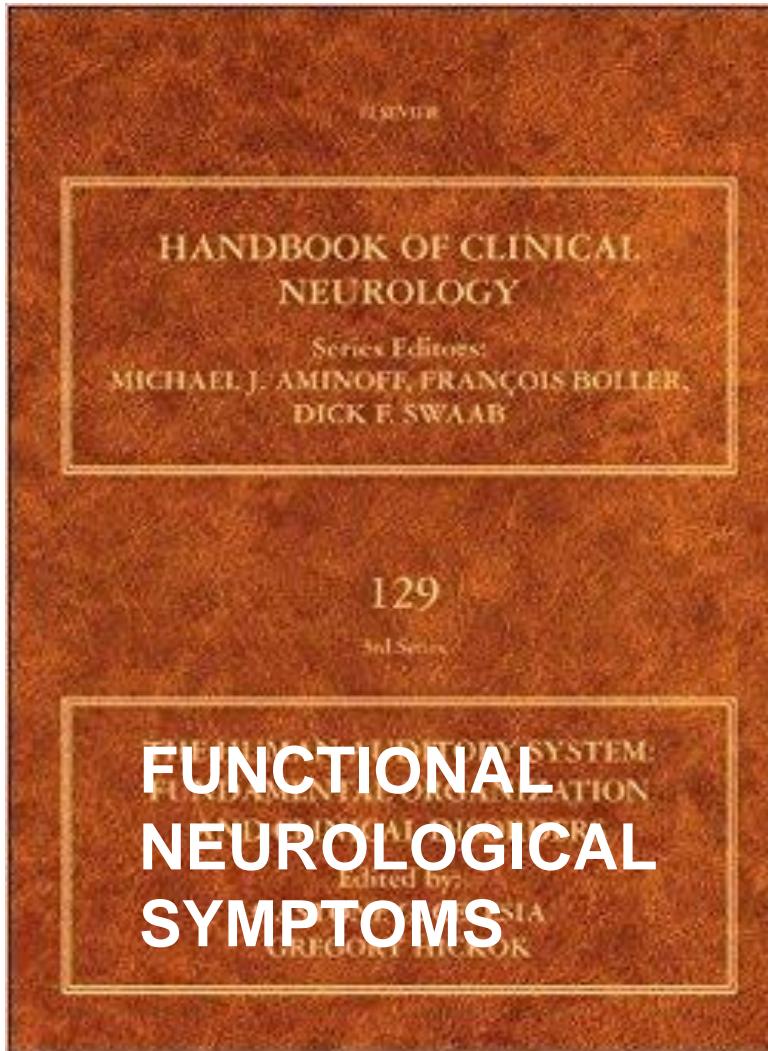
[Memory / Concentration](#)

[Bowel Symptoms](#)

[Dissociation](#)

[Low Mood](#)

Textbook- Hallet, Stone & Carson



Mark Hallet,
Chief of Human Motor Control
NIH

■ a.carson@ed.ac.uk



Ingrid
Hoeritzauer

Jon Stone, Lea Ludwig , Alan Carson , Paula Gardiner, Jeannette Gelauff, Alexander Lehn, Laura McWhirter, Killian Welch

Collaborators: Mark Edwards, Glenn Neilson, Trudie Chalder, Laura Goldstein, Marcus Reuber, Tony David, Karin Roeloffs, Mark Hallet, Tim Nicholson, John Mellors,