Efficacy of classification based 'cognitive functional therapy' in patients with NSCLBP

RCT - 3 year follow up.

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Current evidence for management of NSCLBP

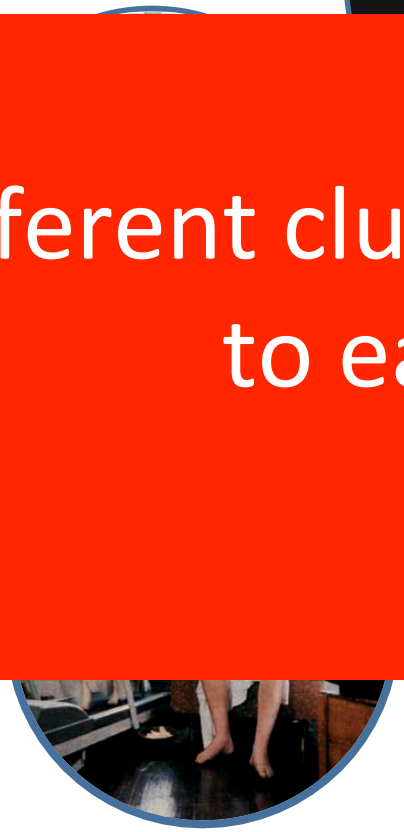
- Spinal manipulative therapy — Rubinstein et al 2011 Cochrane review
- Exercise therapy — Hayden et al 2005 Cochrane review
  - Stabilisation
  - Directional preference
  - Conditioning
- Cognitive behavioural treatment — Henschke et al 2010 Cochrane review

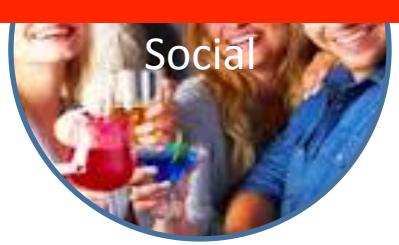
Current evidence for management of NSCLBP

- Spinal manipulative therapy Rubinstein et al 2011 Cochrane review
- No intervention is superior
- Minimal change in pain
- Moderate change in disability

What underlies the disorder?


Patho-
anatomical
Genetics
Physical
What
underlies
CLBP?
Neuro-
physiological
Lifestyle
Psychological
Social





Different cluster of factors contribute to each pain disorder

Target the modifiable factors that drive pain and disability

Specific LBP
- Spondylolisthesis
- Disc prolapse + radicular pain
- Degenerative disc + modic changes
- Foraminal and central stenosis

Non Specific Chronic LBP

Red Flags
- Cancer
- Infection
- Inflammatory conditions
- Fractures

Mechanical Pain Behaviour ⟷ **Non Mechanical Pain Behaviour**

Mixed

Cognitive and psychological factors
- Cognitive, emotional, behavioural

Social factors
- Socioeconomic factors, education, relationships (home, work, peers), work satisfaction, lifestress+/- events, cultural factors

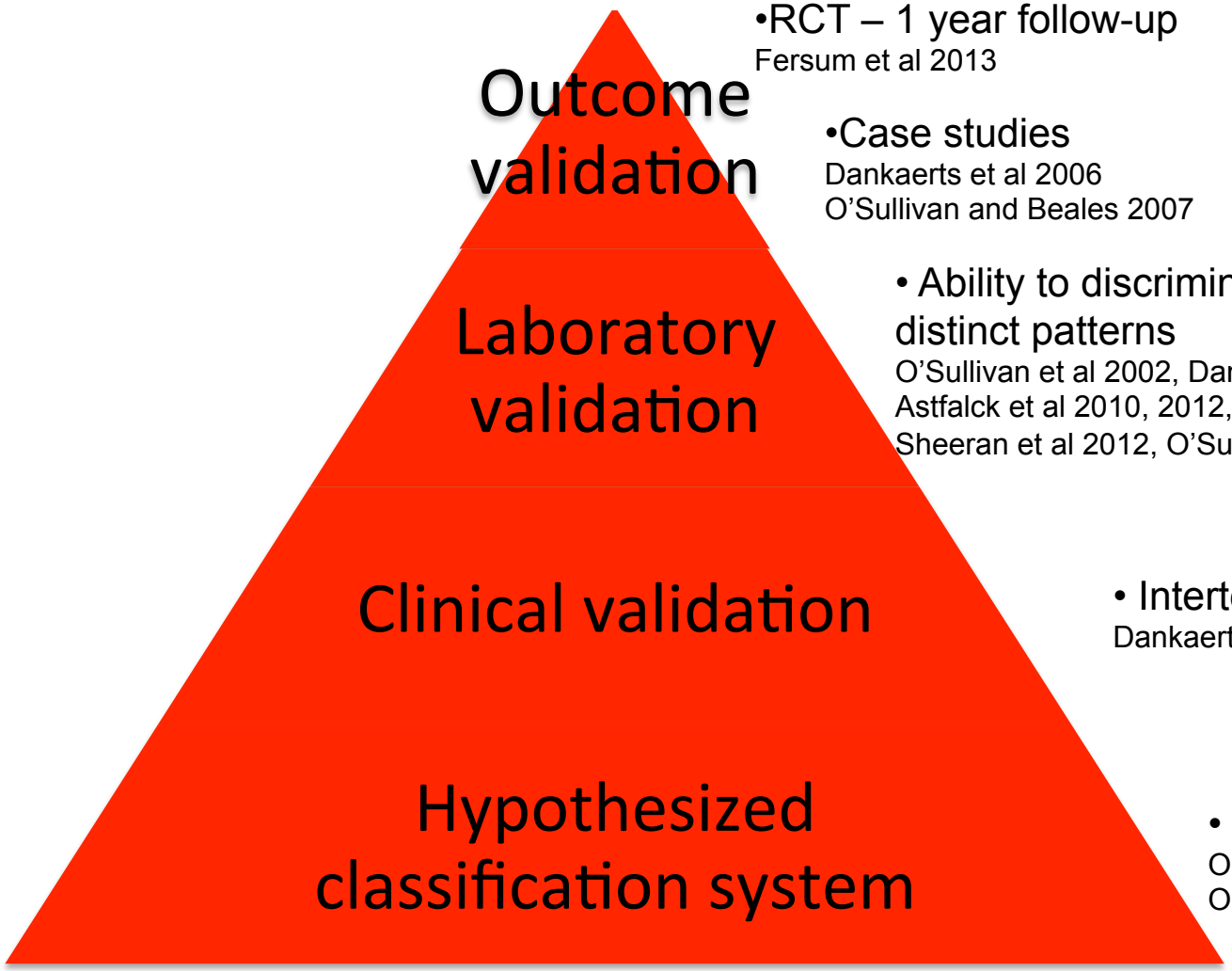
Lifestyle factors
- Life stress, smoking, activity levels, sedentary levels, diet, BMI, sleep, ergonomic considerations, work structure

Whole-person considerations
- Health and pain comorbidities, vitality, perceived general health, health literacy, goals, values, readiness for change, expectations

Pain related movement behaviours
- Adaptive versus maladaptive
- Body Schema considerations

Genetic/familial factors

(O'Sullivan. 2012)



•RCT – 1 year follow-up
Fersum et al 2013 ✓

•Case studies
Dankaerts et al 2006
O'Sullivan and Beales 2007 ✓

• Ability to discriminate distinct patterns
O'Sullivan et al 2002, Dankaerts et al 2006a, 2006b, 2009
Astfalck et al 2010, 2012, Beales & O'Sullivan 2011,
Sheeran et al 2012, O'Sullivan 2013 ✓

• Intertester reliability
Dankaerts et al 2006, Fersum et al 2009 ✓

• NSCLBP
O'Sullivan 1997, 2000 2004, 2005, 2012
O'Sullivan & Beales 2007a, 2007b ✓

•Dankaerts & O'Sullivan 2006

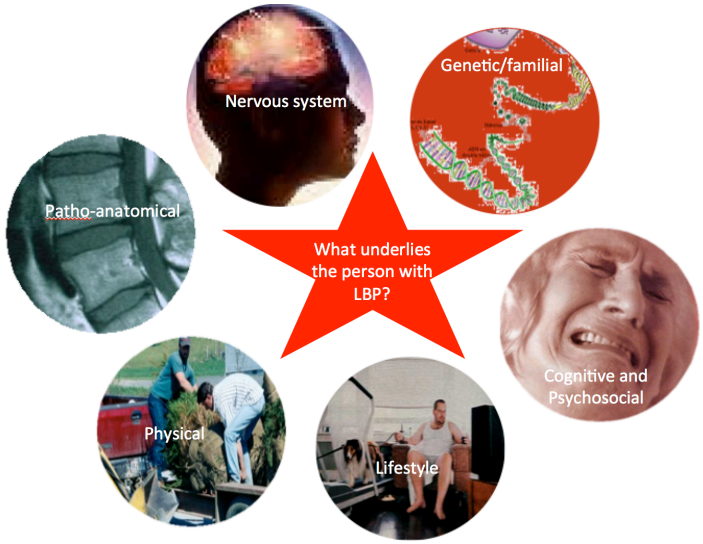
Study aim

- To assess efficacy of classification based cognitive functional therapy (CB-CFT) for NSCLBP compared to manual therapy and exercise at **3 year follow-up**

  - Primary outcomes
    - Disability (ODI)

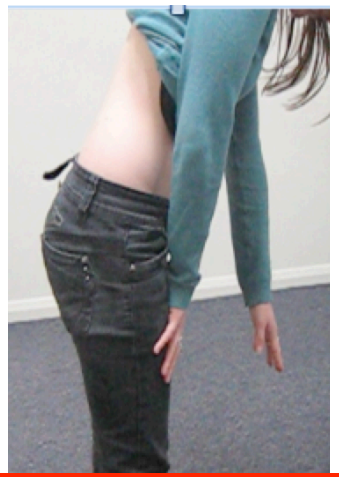
  - Secondary outcomes
    - Pain (PNRS)
    - Well being (HSCL)
    - Fear Avoidance Beliefs (FABQ)
    - Ørebro Screening questionnaire

Cognitive functional Therapy O'Sullivan 2005,2012



Biopsychosocial understanding

Cognitive restructuring



In the context of a strong therapeutic relationship

Manual therapy and exercise (MT-Ex)

Cognitive aspects

Manual therapy

Stabilizing exercises

General exercise

Flowchart RCT study

Recruitment / Referal /Inclusion

Newspaper add

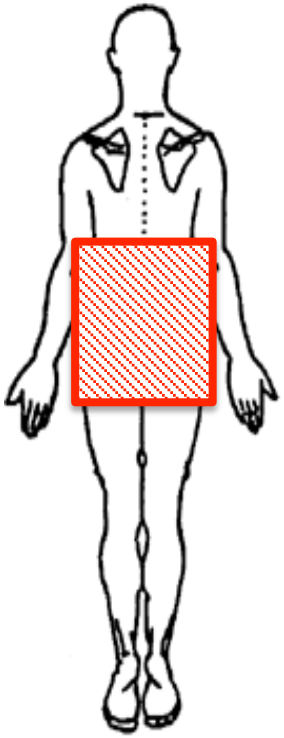
Physio clinis

Medical centres

Back and Neck clinic Haukeland University hospital

Hospital at Hagavik

Telephone screening



Testing/classification

Exclusion N=48

Inclusion

N= 121

Randomisation

Withdrawn N=9

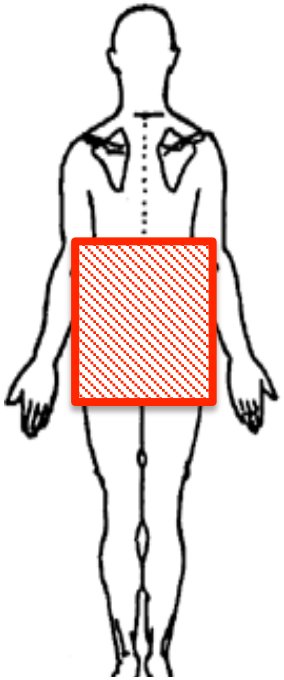
Treatment

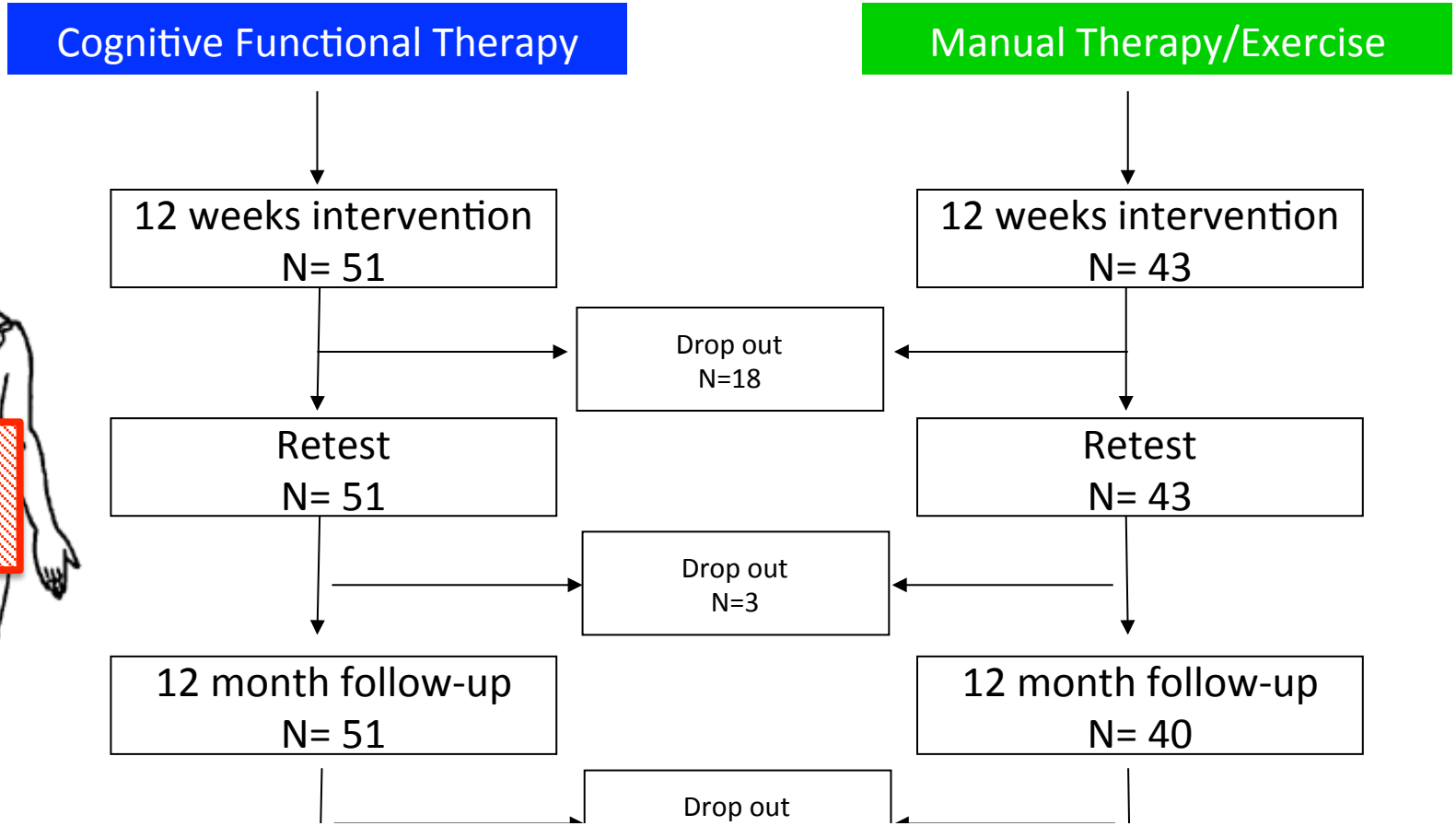
N= 112

Cognitive Functional Therapy

Manual Therapy/Exercise

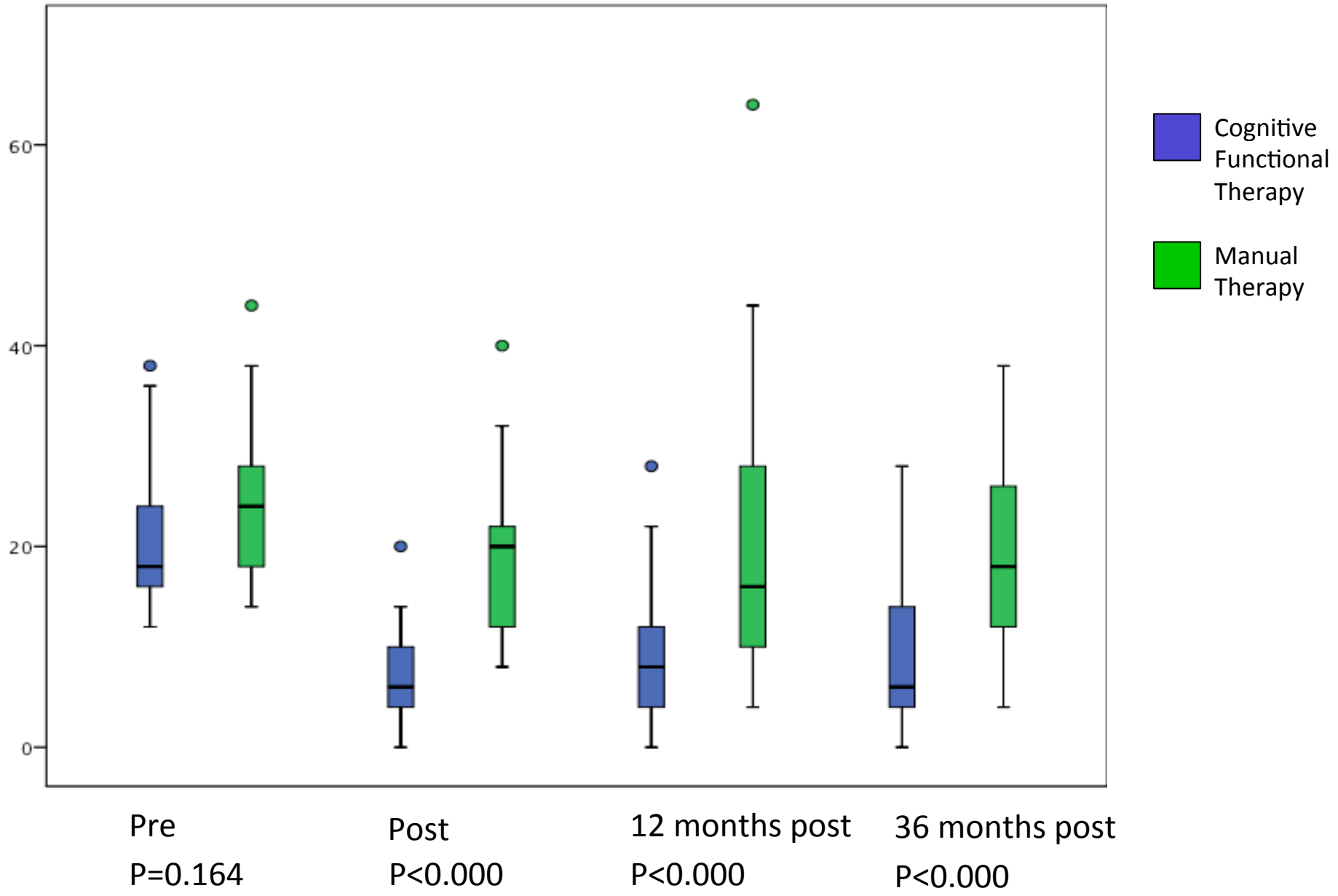
RCT for subjects with localized NS-CLBP



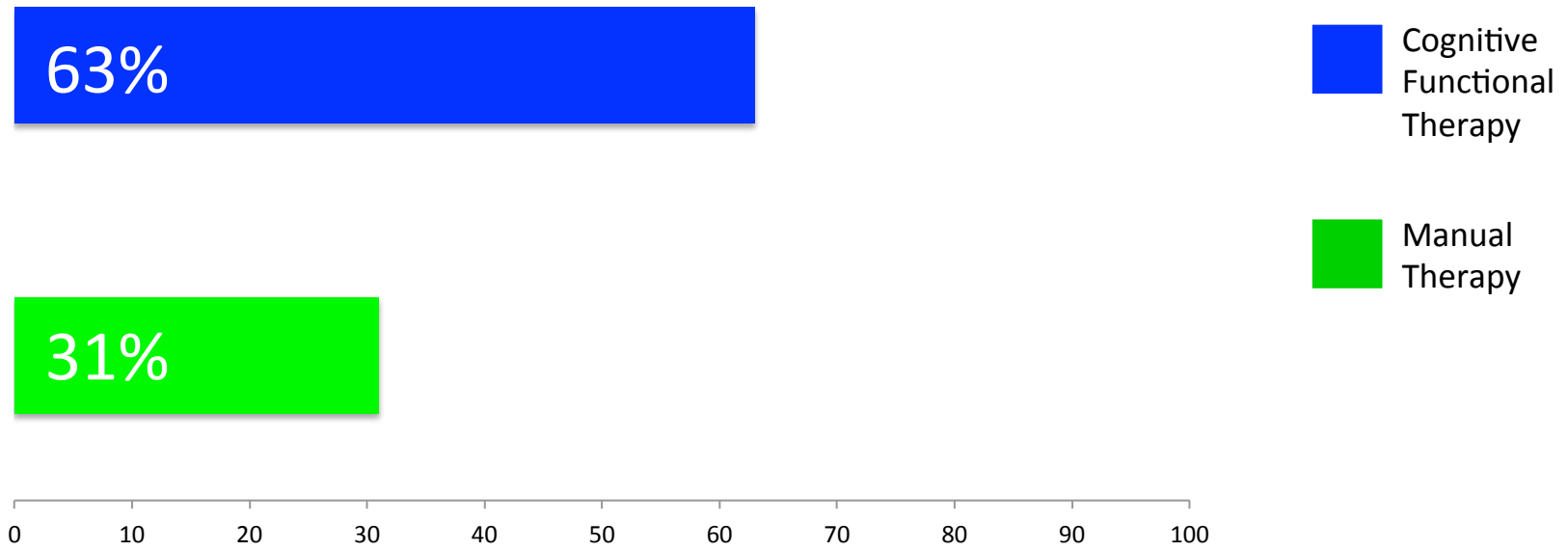


A linear mixed model was used to estimate group differences in treatment effect and also in change in outcome from 3 (post intervention), 12 and 36 month follow-up.

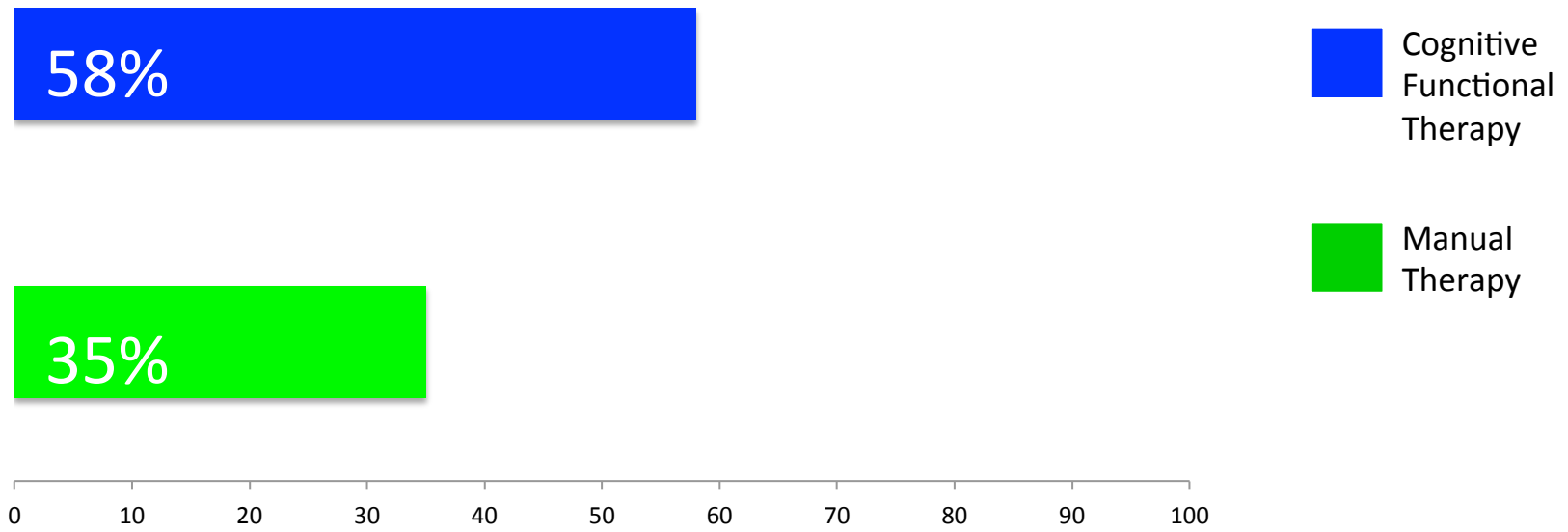
Disability - ODI



Minimally Important Change – Disability at 12 months post (> 10 point change in function – ODI) Ostelo et al 2008



Minimally Important Change – Disability at 36 months post (> 10 point change in function – ODI) Ostelo et al 2008



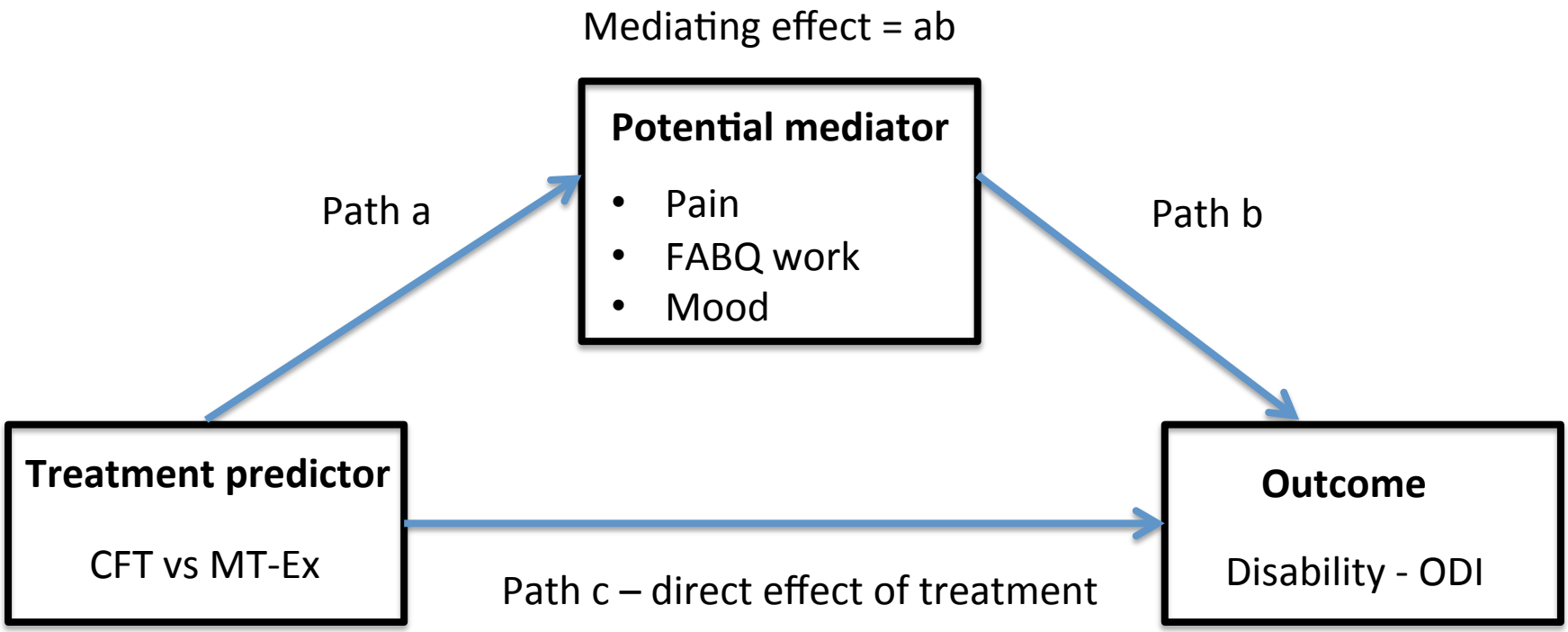
Effect sizes

	CB-CFT vs MT-EX Post	CB-CFT vs MT-EX 12 months	CB-CFT vs MT-EX 36 months
Disability (ODI)	1.48 ***	0.91 ***	1.08 ***
Pain intensity	1.17 ***	0.73 ***	0.68 (p=0.014)
HSCL	0.71 **	0.72 **	1.11 (p=0.034)
FABQ physical	0.76 ***	0.93 ***	0.45 (NS)
FABQ work	0.94 ***	0.83 ***	0.93***
Ørebro	1.21 ***	0.98 ***	1.21***

*** p< 0.000 Sign difference between the groups

** p< 0.001 Sign difference between the groups

Mediators of change in disability in the CFT over the MT-Ex group



Sobel test of mediation

Mediator	Indirect effect	Bootstrapped bias corrected CI	% of treatment effect mediated
Pain intensity	3.0	0.5 to 6.0	47%
FABQ work	1.6	0.0 to 4.4	25%
Mood (HSCL)	1.6	0.1 to 4.3	25%

Mechanisms for change with CFT?

Pain reduction
Fear reduction
Improved mood

Disability

Context of a trusting relationship
& increased self efficacy

Patient pathways

Retain biomedical beliefs

Acceptance of biopsychosocial model

Lack of Independence

Achieving Independence

Control over pain

Function

Control over pain

Return to normal

non-responders

unclear responders

responders

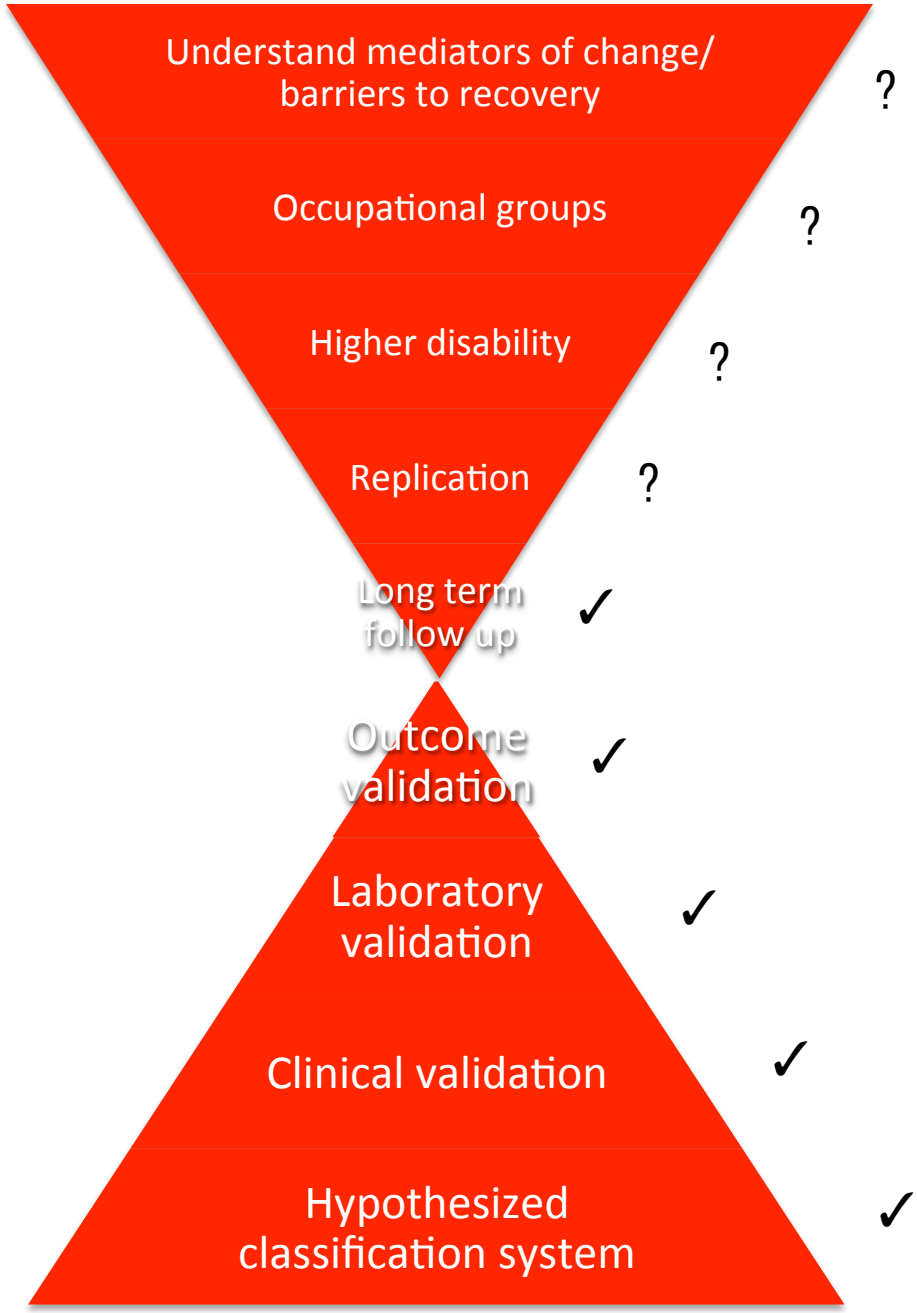
Bunzli et al 2013

Take home message

	CB-CFT vs MT-EX 36 months
Disability (ODI)	1.08 ***

Take home message

7.7


Understand mediators of change/ barriers to recovery
?
Occupational groups
?
Higher disability
?
Replication
?
Long term follow up
✓
Outcome validation
✓
Laboratory validation
✓
Clinical validation
✓
Hypothesized classification system
✓

Acknowledgements

Prof Peter O'Sullivan

Dr Anne Smith

Prof Jan Skouen

Prof Alice Kvåle

Prof Wim Dankaerts

Phd Sam Bunzli

Dr Kieran O'Sullivan

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THE NORWEGIAN FUND FOR POST- GRADUATE TRAINING IN PHYSIOTHERAPY

Curtin University