



# The Impact of Pain on Work Participation

Michiel Reneman

Center for Rehabilitation / Rehabilitation Medicine

Spine Center

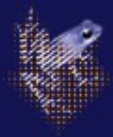


2011.hu



SIP 2011 Workshop 4 May 2011  
European Parliament  
Brussels





NEDERLAND



Groningen





## Focus of this contribution

Chronic non-specific musculoskeletal pain (CMP)

Because:

- ✓ Largest subgroup of people with pain
- ✓ Most costly, because of work productivity loss



## Outline

1. Impact of pain on work
2. Impact of work on health and well-being
3. Staying at work with pain
4. Treatment options
5. Concluding remarks



## LBP: Low Back Pain

LBP highly common among the general population

~ 90% at least once in adult life

Often full recovery in weeks

Recurrent

44-78% relapse of pain

26-37% relapse of work absence

Few: chronic pain with significant limitations in ADL and work



## Societal costs

Direct: costs related to medical care

- Medical: medical, allied, complimentary, ...
- Nonmedical: transportation, meals, house renovations

Indirect: costs related to consequences of CLBP

- Absenteeism
  - Temporary / permanent / modified hours / modified work / modified shifts / ...
- Presenteeism
  - present, but less productive
- Disability
- Replacement: overtime, recruitment, training
- Household productivity: replacement by partner or outsider
- Intangible costs: decreased QoL (often not included)



## Direct and indirect costs

9 countries; various methods

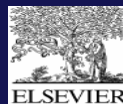
Direct costs: mean 22%

Indirect costs: mean 78%

*USA: LBP 6<sup>th</sup> costliest health condition, 3<sup>rd</sup> in associated disability*

*NL: 0.6% - 0.9% GNP*

*... by any standards must be considered a substantial burden on society*



The Spine Journal 8 (2008) 8–20

THE  
SPINE  
JOURNAL

A systematic review of low back pain cost of illness studies  
in the United States and internationally

Simon Dagenais, DC, PhD<sup>a,b,\*</sup>, Jaime Caro, MD<sup>c,d</sup>, Scott Haldeman, DC, MD, PhD<sup>e,f,g</sup>



## Outline

1. Impact of pain on work
2. Impact of work on health and well-being
3. Staying at work with pain
4. Treatment options
5. Concluding remarks





## Impact of work on health and well-being

Independent review, 'Is Work Good for Your Health and Well-being?'

Commissioned by the UK Department for Work and Pensions

Examination of scientific evidence on the health benefits of work, focusing on adults of working age and the common health problems that account for two-thirds of sickness absence and long-term incapacity.



## Impact of work on health and well-being

There is strong evidence showing that work is generally good for physical and mental health and well-being. ... That is true for healthy people of working age, for many disabled people, for most people with common health problems and for social security beneficiaries.

The provisors are ... jobs must be safe and accommodating.

*Overall, the beneficial effects of work outweigh the risks of work, and are greater than the harmful effects of long-term unemployment or prolonged sickness absence.*

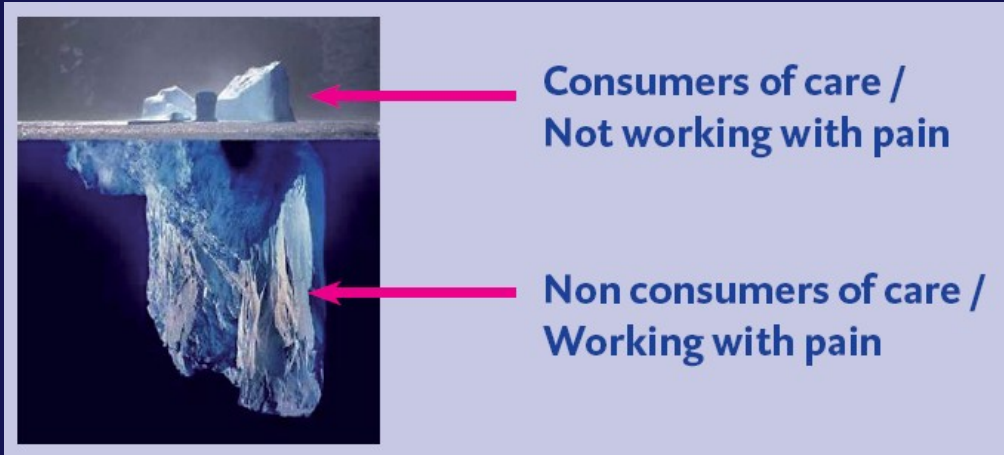
*Work is generally good for health and well-being.'*



## Outline

1. Impact of pain on work
2. Impact of work on health and well-being
3. Staying at work with pain
4. Treatment options
5. Concluding remarks

# Staying at work with chronic nonspecific musculoskeletal pain: why and how



## Relevance:

- 'Unknown' in literature
- New reference field
- What can we and our patients learn from them?
- What goes right?



## The SAW study

Systematic review of scientific literature

In-depth interviews with participants

N=120 workers with chronic pain, < 5% absenteeism

### Measurements:

- Bio: functional capacity, aerobic capacity, activities
- Psycho: cognitions, emotions, distress, coping, ... etc
- Social: occupational physician, boss, partner





## Systematic review: determinants for SAW?

### Consistent (low level) evidence

- |                           |      |   |
|---------------------------|------|---|
| • low emotional distress  | SAW  | ■ |
| • low physical disability | SAW  | ■ |
| • duration of pain        | n.s. |   |
| • catastrophizing         | n.s. |   |
| • self-esteem             | n.s. |   |
| • marital status          | n.s. |   |

### Inconsistent evidence:

- self-efficacy
- age
- gender
- educational level
- physical and mental health
- pain intensity
- depressive symptoms
- coping

### Conclusion

- High level evidence for determinants for SAW is absent
- Existing knowledge is based on low level of evidence



## In-depth interviews – why and how?

To explore

Motivators: why SAW with chronic pain?

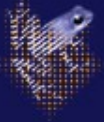
Success factors: how are they able to SAW?

### Motivators:

- work as life value
- work as income
- work as responsibility
- work as therapy

### Success factors:

- personality traits
- adjustment latitude
- coping with pain
- use healthcare services
- pain beliefs



## An attempt to quantify presenteeism in the SAW study

### Preliminary results

Two questionnaires: 0-100% - higher is more productive

#### Work Ability Index (WAI)

- Current work ability: 71%

#### Health and Productivity Questionnaire (HPQ)

- Work productivity past 4 weeks: 77%
- Work productivity past 2 years: 78%





## Preliminary comparison

Workers with CMP: n=120 absent / n=120 SAW

### Larger differences (ES>0.5)

- Pain disability, physical and mental health, lifting, static overhead work and forward bending, pain catastrophizing, pain self-efficacy, work satisfaction

### Smaller / no differences (ES<0.5)

- Pain intensity, activity level, dynamic bending, pain acceptance, fear avoidance beliefs, psycho-neuroticism, pain coping, responses of significant others, need for recovery, and work demands



Final results expected fall 2012

The results can be used to develop interventions to promote SAW.

New positive reference

- Patients
- Clinicians: pain-, rehabilitation, occupational, and insurance medicine





## Outline

1. Impact of pain on work
2. Impact of work on health and well-being
3. Staying at work with pain
4. Treatment options
5. Concluding remarks



## Evidence based treatment options

European guidelines for the management of LBP

COST B13 Working Group

Published:

[www.backpaineurope.org](http://www.backpaineurope.org)

European Spine Journal – 2006

1. Chronic
2. Prevention



## EB treatment options for CHRONIC LBP

### Low disability

- simple EB therapies may be sufficient
- Exercises, brief interventions, medication

### Substantial disability

- *... due to its multidimensional nature, no single intervention is likely to be effective in treatment of overall problem of CLBP*

### Most promising

- Cognitive / behavioral and encouraging exercise /activity
- = multidisciplinary rehabilitation



## Rehabilitation: effective and cost-effective

Systematic reviews:

Multidisciplinary vocational rehabilitation effective for patients with chronic musculoskeletal pain

- Less disability
- More work participation
- Increase quality of life
- Cost effective at follow up



## Current and future challenges

Average size of the effects moderate

Working ingredients of pain rehab largely unknown

- What works for whom?
- Who works for whom?
- How much / how long?

Personal note:

- bioPSYCHOsocial → BIOPSYCHOSOCIAL
- Collaboration and crossover: rehab – anesthesiology – occupational



## Evidence based options for PREVENTION of LBP

### Overarching comments:

Limited robust evidence for incidence (first time onset)  
Primary mechanisms causing LBP largely undetermined

Evidence that prevention of various consequences is feasible

- ✓ Physical activity and appropriate education

One educational strategy:

- ✓ media campaigns aimed at the general public





## Public education

Basic assumption: beliefs guide behaviors

LBP beliefs: serious pathology needs rest to heal

Public education to changing this belief has been focus of public campaigns

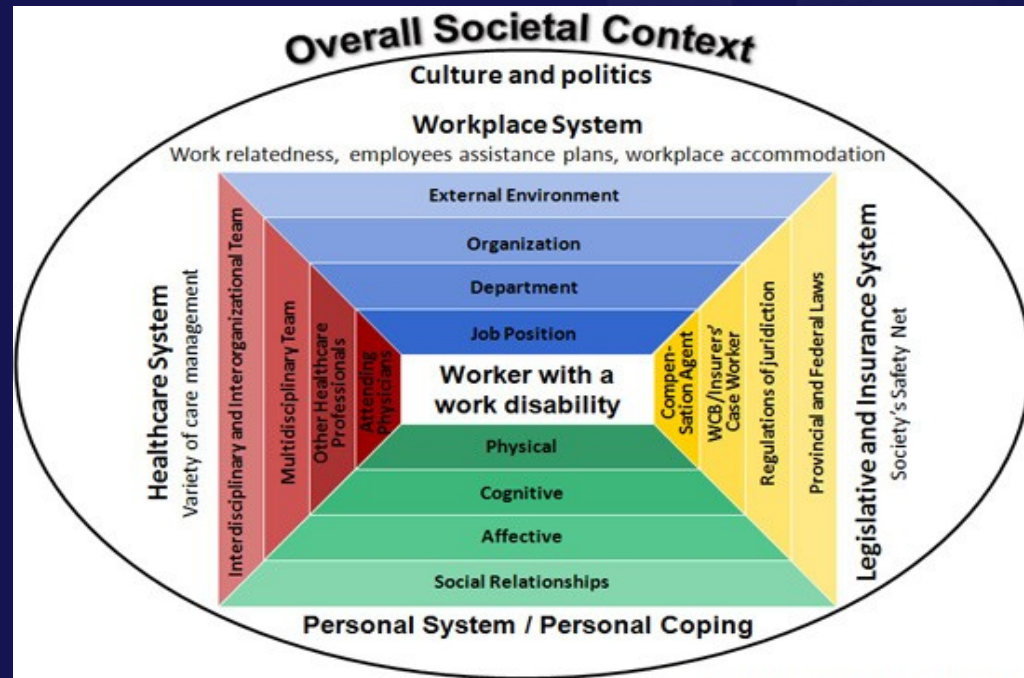
Messages: be active, stay at work (modified)

Australia, Canada, Norway,

Scotland

Netherlands: preparations

Other European countries???



# stay active with back pain

It's a Fact

Sore backs can be limiting at first, but it is still possible to do most normal activities without putting much strain on the back.

Most back pain is not due to any serious disease or damage.

Staying active and continuing ordinary activities as normally as possible will help you cope with and recover faster from back pain.

## Help is at Hand

For free and confidential advice on back pain and work, call the Safe and Healthy Working Advice line on

0800 019 2211

or visit

[www.workingbackscotland.com](http://www.workingbackscotland.com)

Doctors, physiotherapists, chiropractors and osteopaths all agree — **don't take back pain lying down**



**BACKPAIN** > DON'T TAKE IT LYING DOWN

Health care professionals agree staying active is key.

[www.wcb.sc.nhs.uk/backsci](http://www.wcb.sc.nhs.uk/backsci)

## AKUTT VOND RYGG?

Ryggoperasjon er sjelden nødvendig



Det er viktig å vite at ryggsmerter som regel er forårsaket av muskler og ledd, og ikke av skade på ryggvirvelene. De fleste ryggoperasjoner er sjeldne, og det er viktig å vite at ryggsmerter som regel er forårsaket av muskler og ledd, og ikke av skade på ryggvirvelene.

[www.aktivrygg.no](http://www.aktivrygg.no)

For informasjon om ryggsmerter, ta kontakt med din helsevesen.

## AKTIV RYGG

Informasjon til deg som ønsker å vite mer om akutte ryggsmerte

### Om røntgen

Kan det hjelpe? Side 4

### Hva skjer hos legen?

Undersøkt, behandling og smertebetring Side 7

### Nyttige henvisninger

Adresser til utbedret med god rygg Side 8



7728

**BACKPAIN** > DON'T TAKE IT LYING DOWN

**BACKPAIN** > DON'T TAKE IT LYING DOWN

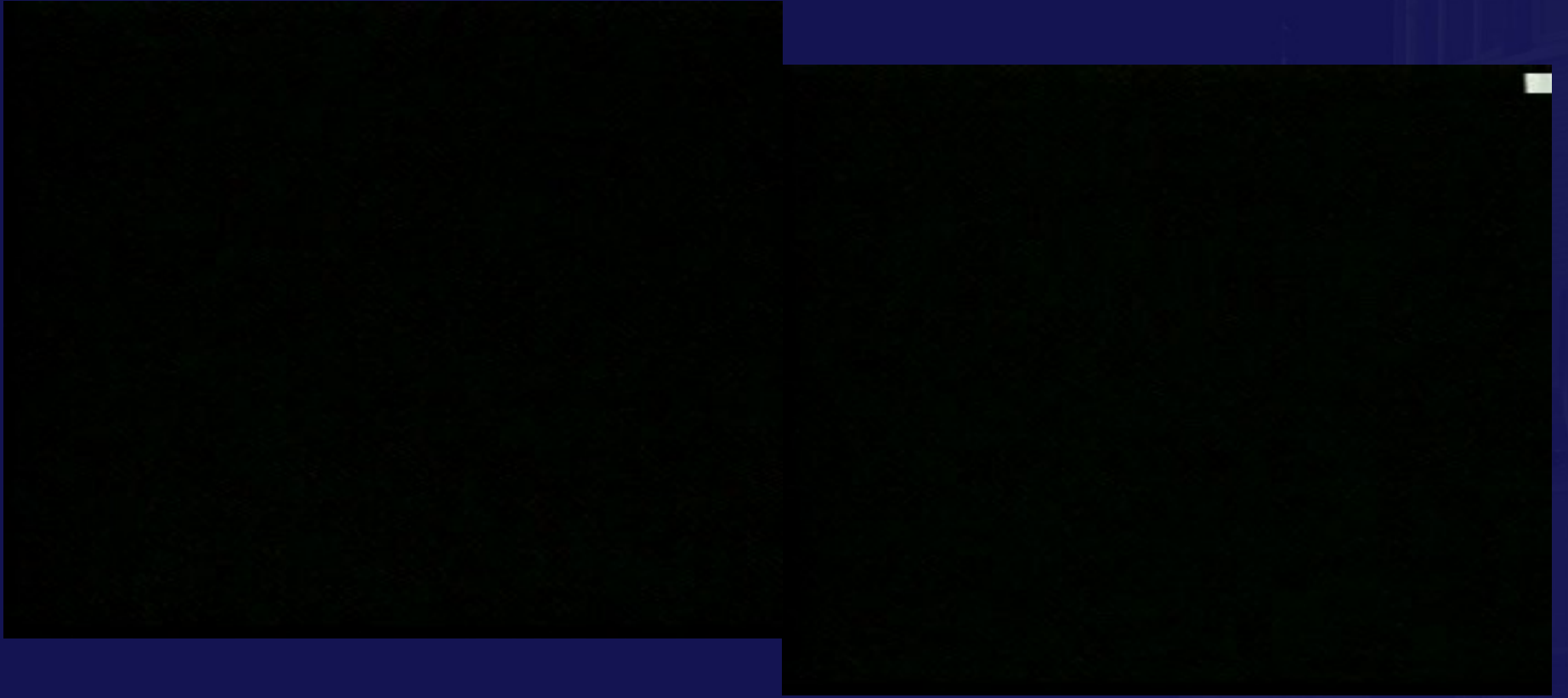
Sore back? Swim. Run. Walk.

The sooner you get moving, the sooner you'll feel better.

Calgary Transit



## 2 TV Ads from Australia





## Outline

1. Impact of pain on work
2. Impact of work on health and well-being
3. Staying at work with pain
4. Treatment options
5. Concluding remarks



## Concluding remarks

### 1. Impact of pain on work

Substantial impact on work and society

### 2. Impact of work on health and well-being

Overall, work contributes to health and well-being

### 3. Staying at work with pain

It can be done, but very limited knowledge on Why and How

### 4. Treatment options

Chronic: rehabilitation, but effect sizes modest

Prevention work disability feasible: public education



Thank you

Michiel Reneman

Center for Rehabilitation / Rehabilitation Medicine

Spine Center

