

### Return to work after early part-time sick leave due to musculoskeletal disorders: randomised controlled trial

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### Background

- Musculoskeletal disorders (MSDs) are a common cause of temporary and partial work disability
- Physical work load factors play a role in work disability
- Staying active has been shown to enhance recovery from musculoskeletal disorders (MSDs)
- Sick leave is a risk factor of future work disability

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### Background (continued)

- Part-time sick leave can offer a compromise, where contact to the workplace is kept while work load is reduced
- Part-time sick leave was introduced in Finland as a social security benefit in 2007
  - Required an uninterrupted prior sick leave of 60 days
- Early work modifications would be necessary in order to avoid prolonged sickness absence in MSDs

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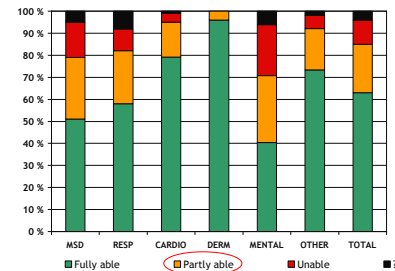
### Aim

to assess the effects of early part-time sick leave on return to work (RTW) and sickness absence among patients with MSDs

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### Perceived work ability

Martimo KP et al Occup Med 2007



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### Outcomes

#### PRIMARY

- Time to RTW
  - Number of days from initial visit to return to regular work activities
- Total number of part- and full-time sick leave days during one-year follow-up

#### SECONDARY

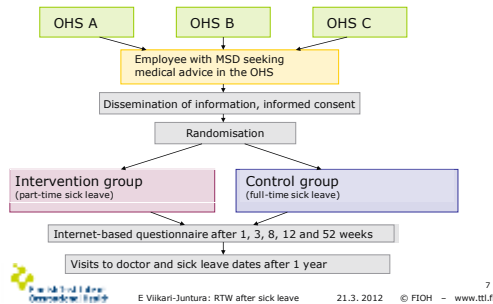
- Intensity of pain
- Region-specific disability due to MSDs (Oswestry, Neck Disability Index, Quick DASH, COAT)

#### OTHER

- Interference of pain with work and sleep
- Self-rated general health
- Perceived impairment in general health (EuroQol)

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## Design



## Elements of intervention

- Length of sick leave determined before randomisation
  - Work time reduced by about a half, mostly on a daily basis
    - Call to supervisor / collective agreement that part-time working will be arranged
  - Additional work modifications when deemed necessary by the physician
  - Fit note from physician, indicating permitted tasks and tasks requiring modifications
    - Fit note given to supervisor the day following visit to physician
  - If RTW not possible after initial part-time sick leave, either part-time or full-time sick leave could be prescribed based on medical assessment
    - Part-time sick leave could be continued up to 60 days
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## Fit note by physician

(Viikari-Juntura 2011)

Types of work tasks	Permitted	Not permitted
Lifting		
Carrying		
Pushing		
Pulling		
Climbing		
Working with tools (e.g. hammer)		
Work on ladders		
Repetitive work		
Work on uneven or sloped surfaces		
Work on uneven ground		
Work in confined spaces		
Work in high temperatures		
Work in low temperatures		
Work in noisy conditions		
Work in dusty conditions		
Work in conditions with vibrations		
Work in conditions with electromagnetic fields		
Work in conditions with ionising radiation		
Work in conditions with non-ionising radiation		
Work in conditions with biological agents		
Work in conditions with chemical agents		
Work in conditions with physical agents		
Work in conditions with psychological agents		
Work in conditions with social agents		
Work in conditions with other agents		

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## Inclusion criteria

- Age 18-60, working time  $\geq 30$  h/week
  - Main reason for seeking medical advice pain in
    - Low back
    - Neck
    - Shoulder
    - Upper or lower limb
  - Not able to work full time in regular activities, i.e. in need for sick leave; however, could do reduced hours, with slight modifications if necessary
  - During preceding 30 days
    - At work  $\geq 2$  weeks
    - $\leq 2$  weeks on sick leave due to reason of current visit
  - $\leq 30$  days on sick leave during preceding 3 months
  - Work contract effective for  $\geq 1$  year onwards
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## General exclusion criteria

- Recent major accidental injury or suspicion of occupational disease as the reason for current visit
  - Severe pain or high level of interference of pain with sleep ( $> 7/10$ )
  - Pregnancy
  - Acute infection
  - Active phase of an inflammatory joint disease
  - Severe mental disorder
  - Recent malignant disease ( $< 1$  year), suspicion of malignancy or on-going active treatment
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## Disease-specific exclusion criteria

### LOW BACK

- Scoliosis due to pain
- Painful muscle spasm upon forward bending
- Pain below knee level at SLR  $< 60^\circ$
- Muscular weakness in lower limb
- Suspicion of medullary compression

### LOWER LIMB

- Walking painful or not possible

### NECK

- Painful torticollis
- Radiating pain below elbow level at neck compression test or movements of head
- Muscular weakness in upper limb
- Suspicion of medullary compression

### SHOULDER AND UPPER LIMB

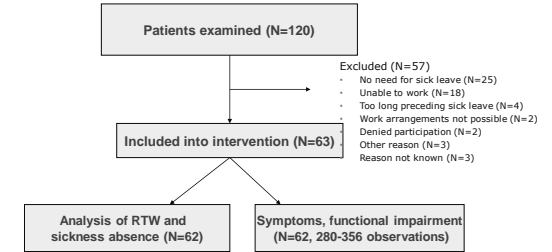
- Severe pain upon movement
  - Muscular weakness associated with shoulder pain
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### Role of supervisor

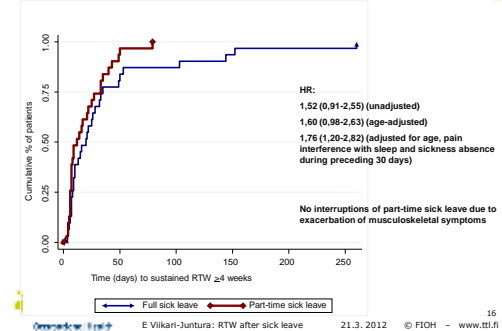
- Agreement of necessary work arrangements by supervisor prerequisite for inclusion of subject to the study (collective/individual)
- Recruitment of substitute during part-time sick leave according to similar principles as during full-time sick leave
- Compensation of lost work input to employer: after 1+9 days "partial sickness allowance" (from research funds)
- Work arrangements based on
  - Fit note from physician
  - Suggestions by the worker
  - Demands of production

### Results

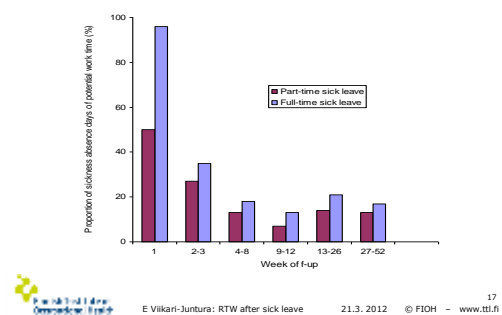
### Study group



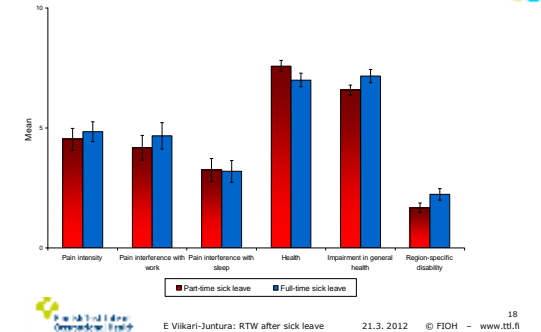
### RTW >4 weeks (regular duties) in the part-time and full-time sick leave group (Viikari-Juntura 2012)



### Proportion of sickness absence days of potential work time during 1-year follow-up (Viikari-Juntura 2011)



### Pain, pain interference, health, disability (Viikari-Juntura 2011)



## Discussion: results

- Sustained RTW faster in the part-time than full-time sick leave group
  - Median time 12 vs 20 days
- Difference in proportion of sickness absence days persisted throughout follow-up period of 1 year
  - Altered illness behavior after part-time sick leave?
- The part-time sick leave group reported better self-rated general health and lower impairment in general health (EuroQol) than the control group
- No differences between groups in pain-related outcomes
- No interruptions of part-time sick leave due to worsening of musculoskeletal symptoms
  - Part-time sick leave is a safe option to enhance RTW in MSDs

## Discussion: results (continued)

- Few randomised studies exist on the effects of sick leaves
  - This study was ethically possible, since a law on early part-time sick leave was not yet enacted
  - The law was amended in 2010 to include also early part-time sick leave (after 1+9 days of full sick leave)
- Physicians used a fit note instead of a sick note to indicate necessary work modifications
  - Fit note was well received among supervisors

## Discussion: methodological & practical problems

- A large enough study base (>25.000) was attained; however not the planned sample size
  - On the other hand the effects of part-time sick leave were greater than assumed
- We might have been too strict with out pain intensity level exclusion criterion
- Many practical problems challenge carrying out research – especially RCTs – in the occupational health service setting
  - Time constraints of physicians & other personnel
  - Computerised medical records systems
- How salary was calculated during part-time sick leave seemed to affect willingness to participate in the study
- Productivity calculations at group or department level in companies can affect willingness to provide part-time work

## Conclusion

- Overall our study shows that work participation can be safely increased with early part-time sick leave among individuals with musculoskeletal disorders

Thank you!