

Liberty Mutual Research Institute for Safety

What predicts long term disability or early return to work? A review of the evidence

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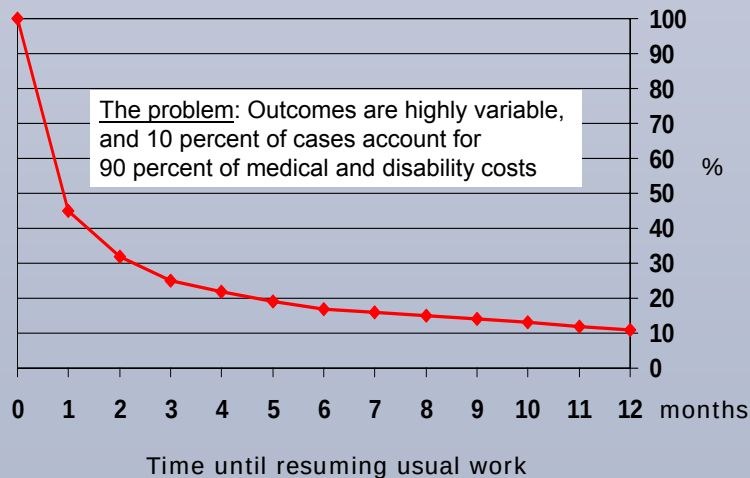
- 10th Journées annuelles de santé publique
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Objectives

- Summarize factors associated with RTW outcomes in prospective MSD studies.
- Discuss methodology and interpretation.
- Present options for integrating prognostic factors into RTW interventions.

Cette présentation a été effectuée le 23 octobre 2006, au cours du symposium "Prévenir l'incapacité au travail : un symposium pour favoriser l'action concertée" dans le cadre des Journées annuelles de santé publique (JASP) 2006. L'ensemble des présentations est disponible sur le site Web des JASP, à l'adresse <http://www.inspq.qc.ca/jasp>.

RTW for musculoskeletal disorders

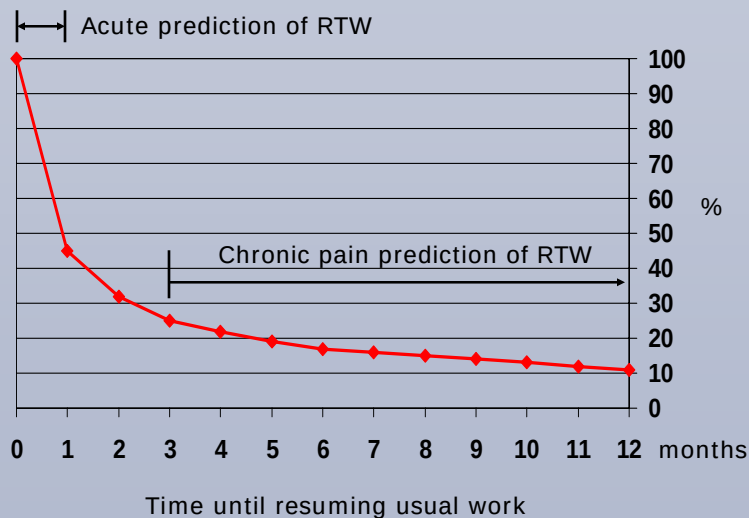


Public health models for risk reduction: The example of cardiovascular disease

- Demographic (non-modifiable)
 - ◆ age, gender, heredity
- Lifestyle
 - ◆ smoking, diet, physical inactivity, stress, alcohol
- Medical diagnostics
 - ◆ high blood cholesterol, high blood pressure, obesity/overweight, diabetes mellitus

American Heart Association, 2006

LBP prognosis for RTW – who and when to screen?



Predictors of MSD disability: Study designs

- Types of studies
 - ◆ Prospective cohort study
- Study populations
 - ◆ Workers filing workers' compensation claims
 - ◆ Primary care/ occupational medicine cohorts
 - ◆ Referrals to specialty clinics
- Data collection
 - ◆ Repeated survey of longitudinal outcomes
 - ◆ Administrative database
- Types of analysis
 - ◆ Logistic regression predicting RTW
 - ◆ Cox proportional hazards modeling

Methodology

- Consult recent literature reviews (2000-2005)
- Compile all factors with at least “moderate support” concluded in one or more review.
- Eliminate redundancy
- Create categories of risk
- (Analyze concordance of risk factors with experimental RTW interventions)

Nine published reviews (2000-2005)

- Crook et al., J Occup Rehab 2002.
- Hartvigsen et al., Occup Environ Med 2004.
- Hoogendorn et al., Spine 2000.
- Linton, J Occup Rehabil 2001.
- Linton (in Nachemson & Jonsson, ed.), 2000.
- Pincus et al., Spine 2002.
- Shaw et al., Disabil Rehabil 2001.
- Steenstra et al., Occup Environ Med, 2005.
- Waddell, The Back Pain Revolution, 2004.

Factor groupings

- Demographic (administrative)
- Biomedical (diagnosis, test results)
- Workplace (job tasks & environment)
- Personal (psychosocial)
- (Treatment, insurance/delivery system)

Demographic factors

- Older age
- Female gender
- Higher socioeconomic status

Biomedical factors (after red flags)

- History of LBP with work absence
- Time lapse before pursuing treatment
- Radicular findings
- “Specific” vs. “non-specific” diagnosis

Workplace factors (1)

- Physical demands
 - ◆ fast work pace (self-report)
 - ◆ Heavier physical demands (self-report)
 - ◆ Type of occupation (construction, warehousing)
- Social/managerial
 - ◆ Lack of social support (validated scales)
 - ◆ Lack of control (validated scales)
 - ◆ Less job tenure (years with employer)
 - ◆ Lack of modified duty options (yes/no)
 - ◆ Delayed report of injury (days)

Workplace factors (2)

- Worker perceptions about work
 - ◆ Job dissatisfaction (validated scales)
 - ◆ Monotonous work (validated scales)
 - ◆ Job stress (validated scales)
 - ◆ Belief work is dangerous (yes/no)
 - ◆ Emotional effort of work (single rating)

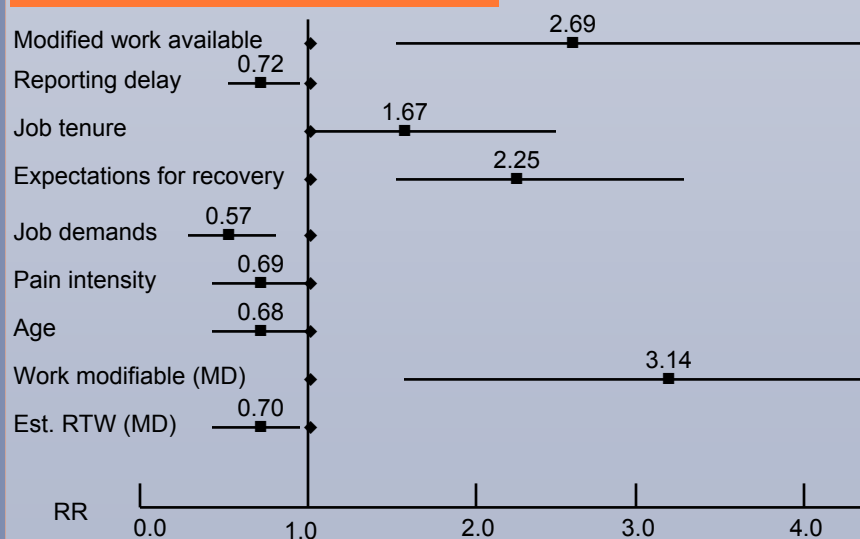
Personal factors (1)

- Behavioral
 - ◆ Perceived functional limitation (validated scales)
 - ◆ Fear avoidant beliefs (validated scales)
 - ◆ Pain behavior (validated scales)
- Cognitive
 - ◆ Pain intensity (0-10 rating)
 - ◆ Somatization (validated scales)
 - ◆ Pain catastrophizing (validated scales)
 - ◆ Poor expectations for recovery (single item)
 - ◆ Poor rating of general health (single item)

Personal factors (2)

- Emotional (abbreviated scales)
 - ◆ Distress
 - ◆ Depressed mood
 - ◆ Anxious mood

Example: Relative risk (RR) for RTW at one month after LBP (N = 291)*



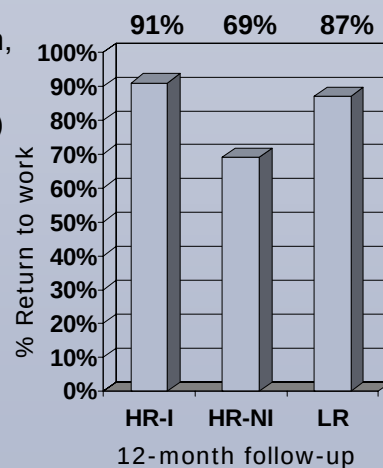
*Shaw et al., SPINE, 30(5), 572-580.

Interpreting risk factor results?

- Overlap among risk factors
- Poor predictive accuracy
- Modifiable vs. non-modifiable
- “Risk factors” vs. “risk indicators”
- When to screen for early intervention
- How should risk factors inform treatment?

Option A: Intervene for high risk patients only

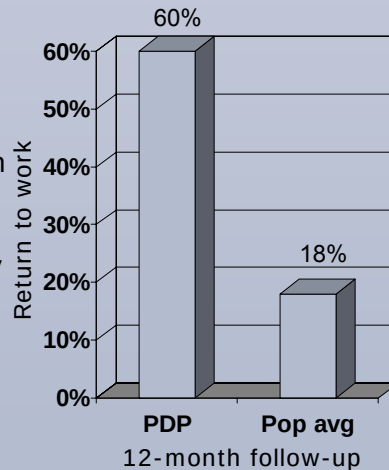
- <10 weeks low back pain, unable to resume work
- 70 of 700 (10% high risk)
- Groups:
 - ◆ 22 high risk with intervention (HR-I)
 - ◆ 48 high risk with no intervention (HR-NI)
- Multidisciplinary functional restoration



Gatchel, Polatin, Noe et al., J Occup Rehabil 2003.

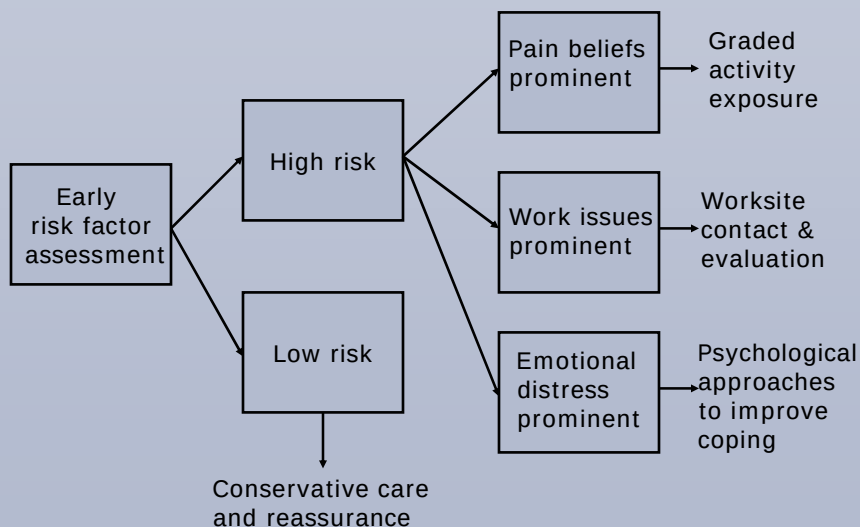
Option B: Intervene on a single risk factor

- Work-related musculoskeletal disorders
- <2 years work absence
- 10-week Pain Disability Prevention (PDP) program focusing on:
 - ◆ pain catastrophizing
 - ◆ fear of movement/re-injury
 - ◆ perceived disability
 - ◆ depression
- Administered by specially trained psychologists in community settings.



Sullivan, Ward, Tripp et al., J Occup Rehabil 2005.

Option C: Identify patient sub-groups?



Summary

- Many prospective studies of RTW
- Psychosocial & workplace factors are key
- No evidence of clear consensus
- Predictive accuracy could be better
- Clear opportunities for intervention

Questions?

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