Enhancing early psychosocial risk assessment and intervention

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# Introduction

This report contains the findings and recommendations from a project comprising two large clinical studies that investigated the early identification and management of psychosocial risk factors known to affect recovery and return to work of workers with musculoskeletal work injury. This report is an update of the discussion paper *Work-related back pain study: measuring biopsychosocial risk factors[[1]](#footnote-1).*

## Aims

The primary aim of the project was to identify and assess the long term impact of key risk factors for delayed recovery, and return to work and function. The risk factors chosen included those that were identified in the available literature as potentially amenable to evidence informed rehabilitation and health interventions.

A secondary aim was to assess the accuracy of risk assessment undertaken in the acute injury phase.by health practitioners and their compliance with treatment guideline recommendations

The anticipated project outcomes included:

1. develop and validate local norms for selected psychometric tools and provide these for use by clinicians to help improve accuracy of their risk identification, treatment planning and outcomes.
2. develop guidance for clinicians and other key stakeholders (employers, rehabilitation staff and insurers) on strategies to improve return to work.
3. publish information in peer review clinical literature to increase credibility of the advice and improve uptake of recommended management strategies by health, employer, insurer and rehabilitation stakeholders.

## Project outline

The project comprised two large prospective studies involving more than three thousand workers with pain related work injuries to the back, shoulder, neck or knee. Of those three thousand workers, fourteen hundred actively participated by completing a series of questionnaires with the remainder used as a control group; both participants and control groups were tracked for return to work and health outcomes.

The first study focussed on people with low back injuries, while the second study looked at workers with injuries to low back, upper back, shoulder, neck or knee injuries. People with serious injuries, existing injury claims and severe and specific pathologies were excluded.

The studies assessed specific psychosocial, workplace and treatment related risk factors for each participant within each study from time of injury at regular intervals up to three years. The screening of participants comprised clinical assessment tools, claims and qualitative data and information on long term work, recovery and health outcomes. Medical and physiotherapy assessment data was also analysed for risks to recovery. All participants in the study were ‘blinded’ (not informed) about any information from the assessment or database data obtained.

More details about the risk domains covered by the psychosocial screening instruments and other assessment tools are provided in Attachment 1.

# Results and outcomes

Both of the studies identified a number of risk factors within each of the domains that adversely affected recovery and return to work. These included: individual factors (relating to the person’s experiences, symptoms their perception of their injury, treatment and workplace); health provider treatment, beliefs and behaviours; and adversarial claims and return to work management.

## General findings

1. Brief psychosocial risk assessment tools were a better predictor of poor outcomes than type of physical injury

These studies have validated the accuracy of the brief assessment tools in predicting poor outcomes and have now provided local norms to help clinicians improve their assessment.

**Implication:** Active and targeted management of specific individual, workplace and other risks identified by screening will achieve positive outcomes and minimise potential risks.

(B) Injured workers with poor outcomes fell into discrete groups based on combination of specific psychosocial risk issues associated with poor outcomes than type of physical injury

These studies found that workers with poor outcomes shared a number of discrete risk issues and these were present across different injuries involved (knee, neck/shoulder, back). Grouping injured workers sharing the same type of psychosocial risk (e.g. catastrophisers, distressed/depressed) better predicted poor outcomes irrespective of the nature of musculoskeletal injury.

**Implication**: Using specific brief tools in risk assessment across different injury types is likely to be more effective that injury based profiling in this group of injuries. Treatment targeting small number of specific psychosocial risks issues is likely to improve return to work outcomes.

(C ) Risk assessment by doctors and physiotherapists failed to adequately identify existing key risk issues

Global assessment by doctors and physiotherapists using existing approaches did not identify risk issues associated with poor outcomes (depressed mood, chronic pain related difficulties), while scores on brief risk assessment tools (which were not made available to the practitioners) clearly identified these risks.

**Implication:** Apply appropriate and risk-targeted management strategies for optimal recovery.

(D) Risk factors changed in composition and intensity throughout the injury

Up to 40% of workers returned to work within three weeks; even those with identified risks (false positive). The study highlighted the most effective time for early intervention and assessment is at three to five weeks post injury and that the number and intensity of risk factors changed over time.

**Implication:** Using brief risk tools from early stages of injury to assess and reassess risk will better inform management by clinicians.

(E ) Treatment and management styles did not target changing risk profiles

The studies found that ‘one size fits all’ clinical management by health practitioners throughout the injury persisted despite evidence of the worker’s changing risk profile. This approach was associated with poor outcomes and included passive treatment (medications, scans, rest and reduced activity) contrary to guideline-based recommendations.

Interventions by clinical practitioners did not address broader issues such as non-supportive workplace, lack of suitable duties, workplace or rehabilitation relationship conflict. As a consequence even those with relatively low level of individual risk factors (e.g. catastrophizing, depression, anxiety) were more likely to have poor outcomes.

**Ill directed interventions**

The study findings indicated that inappropriately applied intervention can significantly worsen return to work outcomes for those already at risk and also increases the likelihood of poor outcomes in those initially assessed at low personal risk. In those initially scoring as mild risk, poor outcomes were associated with poor and non-supportive workplace, claims or health management. Proactive support and training of injured workers in self-management skills were associated with improved outcomes even for those initially assessed as at risk.

**Implication:** Apply appropriate and risk-targeted management strategies for optimal recovery.

(F) Successful intervention facilitates active commitment by worker

The qualitative component of the study (interviews with injured workers) identified the impact of positive support and providing of suitable duties (from worker perspective). Training and encouragement in self-management by health practitioners and return to work consultants were key to recovery in those assessed as at high risk.

**Implication:** It is critically important to involve the injured worker in self-management and as a full participant in managing their own rehabilitation, return to work and recovery process.

## Specific findings

The results from the data derived from quantitative and qualitative assessment of individuals and accompanied by database outcomes are provided here.

Risks in individuals associated with poor outcomes

1. high pain intensity and quality
2. high perceived disability which was impacting on most home, work, recreational and social activities
3. excessive pain focus and fear of aggravating pain through normal daily activity
4. beliefs about having a negative future prognosis and belief that work activities were unsafe
5. poor pain related self-efficacy, poor belief in own self-management of pain
6. prominent psychological distress including anxiety and depressive symptoms, poor coping
7. perception of non-supportive workplace, suitable duties not available early in injury

**Implication:** The worker’s ability to recover and function will depend on the level of reported pain and ability to function despite pain.

Health practitioners’ prediction of risk

Clinician and claims data indicated a moderate reduction in ‘passive’ forms of treatment from those observed in previous studies. This improvement aligned with the recommendations covered under the evidence-informed guides.

However clinical judgment continued to be poor at identifying potential risk issues. Only 5% of workers with poor long term outcomes were correctly identified by doctors as being at risk of ‘non-organic’ presentation at acute stages of injury. Moreover 70% of workers with poor outcomes were identified by brief risk assessment tools at early stages of injury.

Clinical judgment alone (not informed by screening tools) identified only one in 10 of participants assessed as depressed using brief risk screeners. The study had already identified a high depression score on risk screeners as a significant contributor to an increased risk of poor outcomes.

Global risk assessment by GPs failed to identify specific return to work obstacles and less than 5% of GPs were aware of suitable work duties being available or of having any contact with the workplace.

Physiotherapists’ use of evidence based tools for psychosocial risks is low with little evidence of appropriate use.

Active support by employers in providing suitable duties was associated with positive outcomes.

Employers, recovery and claims management

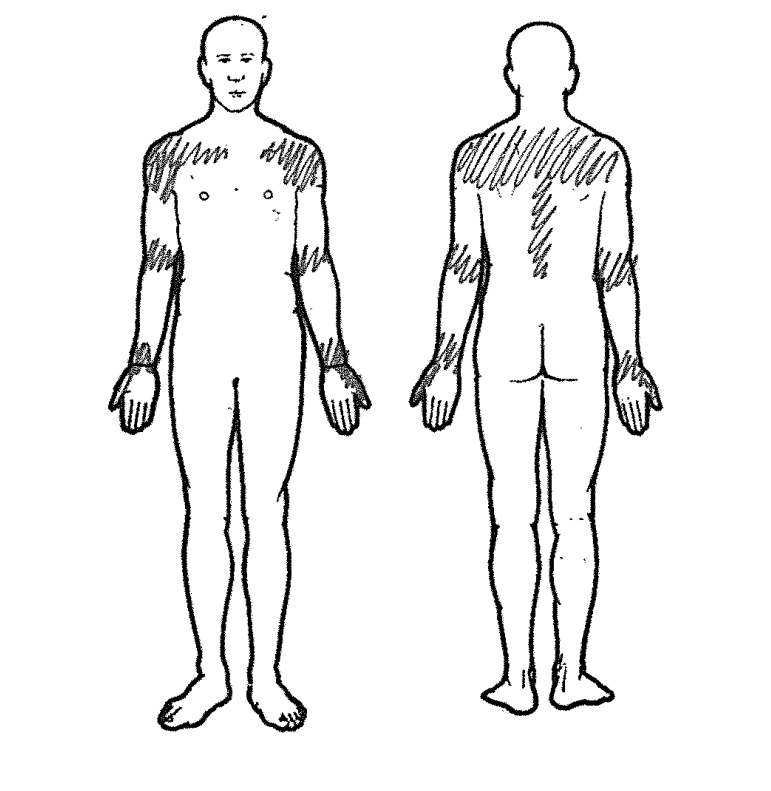
Long term disability was also associated with claims disputes with employers or insurers due to a lack of suitable or modified duties.

## Case studies

These two cases draw on the rich data collected in this study - the worker’s written and verbal feedback (via telephone interview), clinical management and other relevant psychosocial risks were revealed.

**Case study 1**

Four weeks after injury the patient highlighted areas of pain and reported that:

*“I didn’t like the environment of the previous job.*

*Review by physio helped. I didn’t want to go out and do anything because it hurts.*

*Just put on pain medication (Lyrica), this helped a lot. The physio really helped because my spine was very tense and a lot of pressure in my back and shoulders. I had exercises I had to do.*

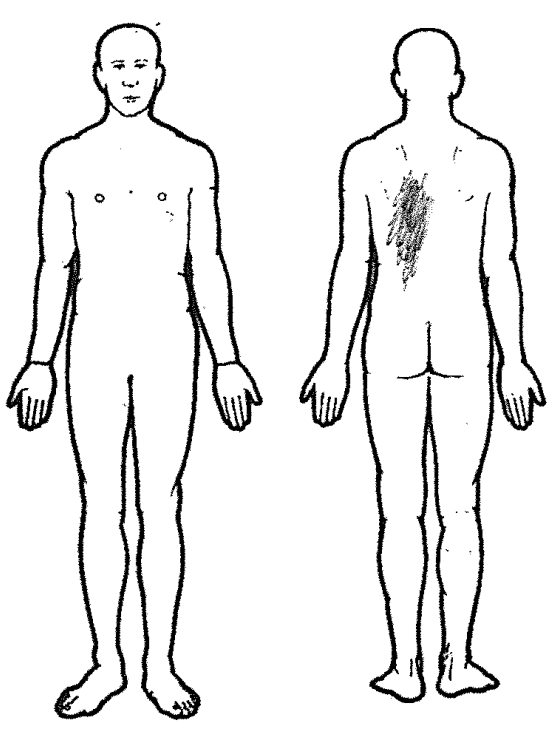
*I kind of have permanent pain but I can cope with pain.”*

**The GP managed this patient by:**

* Risk assessing early which revealed the patient’s fear of activity and deactivation.
* Referring the patient to an active physiotherapy program and monitored progress.
* Listening and reassuring the patient about their specific concerns with pain; addressed those concerns through targeted education (e.g. fears of re-injury).
* Promoting self-management and reinforced the value of the physiotherapist’s strategies.

**Case study 2**

Four weeks after injury the patient highlighted areas of pain and reported that:

“My doctor helped with medication.

Light duties recommended by doctor were not followed by work.

My workmates and coordinators did not care once I was injured.”

**Worker’s self-completed screeners** indicated: high anxiety and distress; low mood; high catastrophising; non-supportive workplace.

**GP’s global assessment** was “no non-organic signs, no depression and RTW within 14 days.”

**Outcome**: with no RTW at six months; high pain levels and high use of pain medication.

**Suggestions for improving management:**

* Early use of a psychosocial screener e.g. K10 or DASS might have identified the high anxiety and distress, and low mood.
* The Pain Catastrophising Scale (PSC) identifies those with high pain focus and pain anxiety. Manage with reassurance about becoming more active with an injury.
* Consider referral to a psychologist skilled to help with low mood and high anxiety about pain.
* **Refer to**: (a) RTW coordinator to address workplace issues e.g. suitable duties, relationships; or (b) mobile case manager to arrange mediation/relationship management.
* Expand treatment options beyond just pain medication and reducing the worker’s hours of work to address broader pain anxiety issues, fear of work activities or lack of suitable duties and deactivation.

# Recommendations for management interventions

## 1. Early risk assessment to inform timely management

Recommendation 1.3 – delay intervention to three weeks after injury

**General practitioners** occupy a key role in the work injury system, however, they need further training and assistance to improve their assessment of risk.

Recommendation 1.1 – increase early risk assessment using tools by influential providers

* GPs to use brief risk assessment instruments to identify areas of risk and then provide targeted management as outlined in Attachment 2.
* Add module on how to conduct recommended risk assessment to GP educational sessions.

**Physiotherapists** have the important role of promoting self-management coping strategies versus providing passive treatment. They may be best placed to advise the GP of potential areas of risk and identify suitable work duties available.

Recommendation 2.1 – enhance GP education

* Physiotherapists to use brief risk assessment instruments to identify areas of risk and then provide targeted management as outlined in Attachment 3.
* Inform GPs of potential risk issues identified including areas highlighted by risk assessment tools.
* Maintain training risk assessment and implications in professional development sessions and practice visits.

Each intervention is informed by risk assessment throughout each stage of the injury from acute phase (up to four weeks), sub-acute (four to 12 weeks) and chronic (beyond 12 weeks).

Recommendation 1.2 – informed interventions

Each intervention should be informed by the specific types of risks identified in the screening process.

Recommendation 1.4 – match strategies to identified risks

Ensure there are specific strategies for specific risk issues.

## 2. Management to target specific risk areas

The training for GPs should include the study findings focussing on:

* specific steps to identify risks using key tools
* link risk assessment findings to targeted interventions
* select relevant tools and instruments to use at each stage of the injury
* access information that helps with clinical management guidelines to assist GPs

The recommendations are similar to that of the GPs. In addition to promote:

Recommendation 2.2 – enhance physiotherapist education

* the role of physiotherapists as coaches to promote and improve the worker’s ability to self-manage using:
  + motivational interviewing techniques
  + goal setting communication styles
* use strategies to inform GPs of the risk assessment findings.

## 3. Education of employers

Workplace interventions involving return to work coordinators and other relevant workplace-based staff such as supervisors to:

* help reduce workplace obstacles
* offer suitable employment
* identify and support workers with anxiety issues and mood disorders

Employers will need to be educated about the need to assist supervisors to manage potential difficulties such as suitable duties and co-worker relationships.

General education and training can be disseminated by better informing the existing training for employers, return to work coordinators about the recommendations arising from these studies.

Better informed clinicians and return to work staff can provide professional guidance for individual interventions with employers in cases identified as at risk in risk assessment.

# Attachment 1. Risk assessment tools

**Table 1. Individual assessment tools**

|  |  |  |
| --- | --- | --- |
| **Screening type** | **Risk domain of individual** | **Instrument** |
| Brief screeners | A range | Orëbro, Back Disability Risk Questionnaire |
| Single questions | Pain quality | Single scale question |
|  | Durable RTW | Single scale question |
|  | Area of pain | Pain drawing |
| Comprehensive instruments | Function | Pain Disability Index  Oswestry Disability Index |
| Fear-avoidance beliefs and  pain catastrophising | Pain Catastrophising Scale  Tampa Scale of Kinesiophobia  Fear Avoidance Beliefs Questionnaire |
| Confidence about coping with pain | Pain Self-Efficacy Questionnaire |
| Self-perceived disability | WHO Disability Assessment – self administered |
| Emotional distress | Depression Anxiety and Stress Scale (DASS) |

**Table 2. Individual perceptions of: their workplace; treatment; health practitioners**

|  |  |  |
| --- | --- | --- |
| **Domain screened** | **Area of risk** | **Information sought** |
| Workplace | Nature of job | Demands of role |
| Supervisor support | Making duties available |
| Employment options | Availability of suitable duties |
| Expectation of RTW | At 4 weeks and 6 months on a scale 0 to 10 |
|  | Job satisfaction |  |
|  | Co-worker support |  |
| Health practitioners, case managers & RTW consultants | Level of support |  |
| Strategies used | Approach to injury management, referral |
| Treatment models | Passive or active |
|  | Status of recovery | What helped and what didn’t help for the outcome |

# Attachment 2. Suggested actions for general practitioners

|  |  |  |  |
| --- | --- | --- | --- |
|  | Early intervention Within 3 weeks post-injury | 4-12 weeks post injury  Detailed review and modify treatment | Chronic phase  Rethink, reassess  Consider multidisciplinary approach |
| **Risk assessments** | Use brief screeners like Orebro, K10 and pain intensity to gain insight into the worker’s:   * Function * Global prediction of RTW * Fear/avoidance behaviour * Fears of re-injury | Reassess and consider the specific risks test with:   * Pain Catastrophising Scale * Pain Self Efficacy Q’re (coping with pain) * K10 for distress | * To identify and treat persistent pain issues, re-administer DASS/K10, pain self-efficacy * Refer to pain psychologist and or multidisciplinary team for detailed risk assessment |
| **Clinical response** | * **Refer to physiotherapist** for active treatment and monitor progress * Listen, reassure, foster self-management, extend activity levels to be ‘active despite pain’ * Educate about pain e.g. it does equate to severity of injury | * **Review physiotherapy** treatment * Refer to mobile case manager, RTW consultant or coordinator for workplace issues * For clinical signs of low mood, high anxiety, depression consider referral to pain psychologist * **Reassess** patient’s understanding of their conditions * Work Capacity Certificate to reflect functional abilities | * **Review role of physiotherapy** treatment * Assess and impact of deactivation * Review and treat if **sleep difficulties** * **Refer to multi-disciplinary team** of experienced clinicians * Coordinate with all parties |
| **Additional clinical management** | * **Expand treatment options** beyond pain medication and reducing the worker’s hours of work to address broader pain beliefs and anxiety issues * **Refer to**: (a) return to work coordinator to manage workplace problems e.g. suitable duties, relationships; or (b) mobile case manager to arrange mediation/relationship management | ***Now consider***  **Cognitive behaviour techniques (CBT)** for persistent pain addressing:   * Fear avoidance/behaviour at work * High pain focus and distress * Re-activation strategy   **Pain management techniques** using:   * Pain education * Physical exercise regime * Coaching/motivational techniques | ***Now consider***  **Cognitive behaviour techniques to counter:**   * Distress, depression, anxiety * Self-perceived disability * Pain management techniques   Review impact of CBT to identify specific ongoing difficulties and modify management including pain education approach |

# Attachment 3. Suggested actions for physiotherapists

|  |  |  |  |
| --- | --- | --- | --- |
|  | Early intervention Within 3 weeks post-injury | 4-12 weeks post injury  Detailed review and modify treatment | Chronic phase – rethink and reassess  Consider multidisciplinary approach |
| **Risk assessments** | Use brief screeners2 like Orebro in addition to a clinical assessment to gain insight into the worker’s:   * Function * Global prediction of RTW * Fear/avoidance behaviour, prominent distress and fears of re-injury | Re-administer Orebro and review clinical assessment and consider the specific risks and test with:   * Pain Catastrophising Scale * Pain Self Efficacy Q’re (coping with pain) * K10 for distress | * Identify and treat persistent pain issues * Re-administer Orebro and consider pain self-efficacy questionnaire   Discuss with GP possible referral to pain psychologist/multidisciplinary team for detailed risk assessment |
| **Clinical response** | * **Undertake active treatment** and monitor progress * **Listen, reassure**, foster self-management, extend activity levels to be ‘active despite pain’ * **Educate about pain** e.g. pain/harm * Early contact with GP re any concerns, recommendations | * Reassess progress against goals and patient’s understanding of their condition * Review treatment and consider referral to a specialist musculoskeletal physiotherapist   **Liaise with GP re**:   * Function, suitable duties; using mobile case manager, RTW consultant or coordinator if workplace issues raised by patient * Suggest referral to pain psychologist if behaviour or screening indicates risk factors for pain behaviour | * Review clinical treatment and assess outcomes against goals set * Assess and manage impact of deactivation * Ask about sleep difficulties and discuss with GP if clearly present * Communicate/coordinate with each party and other clinicians involved |
| **Additional clinical management** | **Contact GP regarding any concerns raised in the assessment:**   * Prominent distress and or anxiety identified * Focus on function and advise on suitable duties   **Liaise** with (a) return to work coordinator and/or (b) mobile case manager if workplace problems identified e.g. suitable duties, relationships | ***Now consider***  **Pain management techniques** using:   * Pain education * Physical exercise regime * Coaching/motivational techniques * Re-activation strategy | ***Now consider***  **Review pain management** and educationto:   * Address inaccurate beliefs about the injury and modify management including pain education * Focus on re-activation (identify any barriers and manage). |



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If you are deaf or have a hearing or speech impairment you can call ReturnToWorkSA on **13 18 55** through the National Relay Service (NRS) [**www.relayservice.gov.au**](http://www.relayservice.gov.au).

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1. Available on <https://www.rtwsa.com/publications-az> [↑](#footnote-ref-1)