Managing the painful upper limb back to sustainable good work.

Dr James Economos
Focus on upper limb pain managed in the workers compensation setting.

Scope of the problem

Barriers/challenges we face

Published evidence/recommendations of the general principles of occupational rehabilitation

A case study.
Scope of the problem

Australian Workers' Compensation Statistics for serious claims, 2013–14, Safework Australia

Incapacity that results in a total absence from work of one working week or more
Between 2000–01 and 2012–13, the number from injury and MSk disorders fell by 13%.

Claims from diseases fell by 6%.

Claims from mental disorders increased by 10% (only major condition to increase)
Major locations that showed an increase were the shoulder (17%), non-physical locations (10%), the lower leg (9%) and the knee (6%).

Between 2000/01 and 2012/13, median time lost rose by 29 % from 4.2 to 5.4 weeks.
2013-2014

Location most commonly affected by injuries and diseases was the back (22%), hand and digits (13%), shoulder (11%), and knee (10%).

Muscular stress while lifting or handling objects (33%) & falls, trips and slips (22%)
<table>
<thead>
<tr>
<th>Location of Injury</th>
<th>2000-01</th>
<th>2008-09</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>% change</th>
<th>2013-14p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper limbs</td>
<td>43,070(32%)</td>
<td>42,205</td>
<td>40,625</td>
<td>41,710</td>
<td>42,345</td>
<td>39,795(34%)</td>
<td>-8%</td>
<td>36 355</td>
</tr>
<tr>
<td>Hand &amp; digits</td>
<td>17 630</td>
<td>15 840</td>
<td>15 040</td>
<td>15 430</td>
<td>15 250</td>
<td>14 575</td>
<td>-17%</td>
<td>13 535</td>
</tr>
<tr>
<td>Shoulder</td>
<td>10 660</td>
<td>12 435</td>
<td>12 450</td>
<td>12 715</td>
<td>13 360</td>
<td>12 480</td>
<td>17%</td>
<td>11 310</td>
</tr>
<tr>
<td>Wrist</td>
<td>6 125</td>
<td>6 170</td>
<td>5 850</td>
<td>6 125</td>
<td>5 895</td>
<td>5 455</td>
<td>-11%</td>
<td>4 970</td>
</tr>
<tr>
<td>Elbow</td>
<td>3 110</td>
<td>2 915</td>
<td>2 855</td>
<td>2 965</td>
<td>3 095</td>
<td>2 900</td>
<td>-7%</td>
<td>2 565</td>
</tr>
<tr>
<td>Forearm</td>
<td>2 165</td>
<td>1 905</td>
<td>1 860</td>
<td>1 840</td>
<td>1 995</td>
<td>1 835</td>
<td>-15%</td>
<td>1 535</td>
</tr>
<tr>
<td>Upper arm</td>
<td>1 145</td>
<td>1 180</td>
<td>1 065</td>
<td>1 130</td>
<td>1 125</td>
<td>1 040</td>
<td>-9%</td>
<td>1 005</td>
</tr>
<tr>
<td>Total</td>
<td>133 115</td>
<td>125 800</td>
<td>123 485</td>
<td>125 170</td>
<td>125 305</td>
<td>116 325</td>
<td>-13%</td>
<td>106 565</td>
</tr>
</tbody>
</table>
Data not further analysed by the location of injury/disease.

Three occupations with the highest number of claims/million hours worked

- labourers (16.8%)
- community/personal service (12.3%)
- machinery operators/drivers (11.4).
South Australia
2003-2004 data

- 14,000 claims for UL
- 30% of all claims
- Shoulder 8% and hands 12% of all MSk claims.
- 29% ($48 million) of the cost of musculoskeletal claims at $3,400/claim
UL symptoms are commonly experienced irrespective of work and can lead to difficulty undertaking everyday tasks, work sometimes provoking symptoms that may otherwise not materialise.

- often triggered by physical stress due to everyday activities/work, generally transitory but recurrent

- this applies to specific diagnoses as well as non-specific complaints.
Management of UL disorders and the biopsychosocial model
UK Health and Safety Executive 2008

- considerable uncertainty over classification/diagnosis
- inconsistent terminology impacts on studies of their epidemiology, treatment, and management.
- work has a limited overall role in the primary causation of ULD’s.
- over-attribution to work is detrimental
- Suggest term work relevant rather than work-related
**Definition of Injury**

http://www.merriam-webster.com

- **1a**: an act that damages or hurts: **wrong** (Behavior that is not morally good or correct. A harmful, unfair, or illegal act)
- **1b**: violation of another's rights for which the law allows an action to recover damages
- **2**: hurt, damage, or loss sustained
Realising the Health Benefits of Work

Assuming adequate risk control, biomechanical & epidemiological studies/evidence shows that the physical demands of modern work play a modest role in the development of defined MSk problems.

Some physical aspects of work are strongly associated with the development of MSk symptoms, particularly when exposure to those risks is intense.
Management of UL disorders and the biopsychosocial model
UK Health and Safety Executive 2008

- rarely reflects irreparable damage
- majority resolve with self-management or simple conservative strategies and no or little work disability
- recovery and return to full activities can be expected
- lasting impairment is rare.
Many studies have considered RTW simply in terms of the first RTW.

Small but significant proportion have recurrent work absence or unusually lengthy time off with low probabilities of RTW i.e. first RTW does not necessarily mark the end of work disability.

UK Health and Safety Executive 2008
Management of UL disorders and the biopsychosocial model
UK Health and Safety Executive 2008

- So should people RTW whilst symptomatic?
- Established for back pain that there is no need to await total resolution of symptoms before reactivation and RTW.
- Less extensive evidence for ULD’s but reasonable to think that the same principles will apply.
If the person is off work for:

- 20 days - 70% chance of ever getting back to work
- 45 days - 50% chance
- 70 days - 35% chance
Heads of Workers’ Comp Authorities Australia & NZ RTW Monitor 2011/12

- Australian national RTW rate (84%) NZ (88%).
- Durable RTW rate was 75%. (72% in 2008/09)

Of Australians who returned to work.

- 67% for the same employer and same duties.
- 18% for the same employer but different duties.
- 6% new employer while doing the same duties
- 9% different duties with a different employer.
Realising the Health Benefits of Work

Physiological health and wellbeing relies heavily on an individual’s level of fitness. Physical activity, therefore, should make up a large part of any rehabilitation program for injury or illness—and work should be viewed as part of this therapeutic rehabilitative process.

Good work is a source of productive engagement, economic stability and personal interaction, all of which have a positive impact on recovery or managing an ongoing illness or disability.

Realising the Health Benefits of Work

For young people, research suggests that unemployment leads to a range of psychological problems (depression, anxiety and low self-esteem).

These may have consequences for health, via an association with negative lifestyle choices including heavy tobacco, alcohol and drug use, as well as higher mortality from suicide and accidents.
Management of UL disorders and the biopsychosocial model

UK Health and Safety Executive 2008

- Older age is associated with more troublesome UL complaints/less favourable prognosis.

- UL complaints and (most) specific diagnoses are more common among females; this likely reflects a reporting phenomenon rather than a physiological issue in all but a few specific diagnoses.

- Individual psychological factors consistently found to be associated with various aspects of ULDs, including symptom expression, care seeking, sickness absence, and disability.
**UK Health and Safety Executive 2008**

Biological considerations should not be ignored, medical treatment nor ergonomic workplace interventions alone offering an optimal solution, psychosocial factors being important for vocational and disability outcomes.

**Realising the Health Benefits of Work**

Strong evidence that, in general, long-term disability relates more to individual and workrelated biopsychosocial factors than the physical demands of work or medical concerns.

- Beliefs about their MSk condition/pain
- Family situation
- Job satisfaction and attitude to work.
Biomedical Rx for specific diagnoses
UK HSE 2008

Strong evidence for:
- exercise for rotator cuff tendonitis
- oral steroids for impingement syndrome or capsulitis
- corticosteroid injections for tenosynovitis.

Strong evidence against:
- oral diuretics for carpal tunnel syndrome (CTS)
- ESWT for epicondylosis.

Moderate evidence for CTR and against pyridoxine vitamin B6 for CTS and massage for tendonitis.
Ergonomic work design/redesign
UK HSE 2008

- not shown to have a significant effect on incidence/prevalence rates of ULD’s.
- can improve comfort - valuable as can contribute positively to multimodal interventions.
- adjustments to reduce UL pain - limited evidence for computer work, insufficient evidence for manufacturing workers.
Review of what workplace interventions are effective in people with CTS, non-specific arm pain, tenosynovitis or lateral epicondylosis in preventing/reducing sickness absence/retaining normal job/preventing ill health retirement?

- 28 papers included for critical appraisal of 1,532 papers identified.
- 4 papers met the minimum quality standard.
Key findings

- CTS in computer operators - offer the opportunity to trial different keyboards.

- Non-specific arm pain off work for at least 4 weeks - multidisciplinary rehab (with physical and psychosocial approaches) should be offered, or facilitated, by employers.

NHS 2009
Extremely large literature which is difficult to compare and synthesise because of the great variation in the:

- variables that are the focus of the study
- population studied
- study design
- way variables (including outcome variables such as RTW) are defined and measured.
Address individual psychological characteristics and workplace factors (particularly job design and workplace support).

Coordinated approach between all stakeholders

Best practice clinical management

RTW interventions may differ in emphasis and content depending on chronicity.
Reasons for RTW

- Recovery from injury (52%),
- wanting to return to work (38%)
- economic need (35%)

Reasons for not RTW

- injury related reason (70%)
- still being injured (54%)
Who did people identify as being the most helpful in returning them to work

- doctors (20% A 12% NZ)
- physiotherapists (19% A 27% NZ)
- someone from work (16% A 12% NZ)
Findings suggested people are taking longer to RTW than a decade ago.

An association between employer support and higher RTW and durable RTW rates has been consistent over the course of the Monitor.

When any stakeholder was identified as a person who ‘made it harder’ to RTW, a lower durable RTW outcome was achieved.
The players

- System (lobby groups, government, regulator, agents)
- Person and their outside network
- Employer/co-workers
- Health providers
- Claims/rehab
- Engaged representatives
Overcome obstacles

- Early identification and tackling of biopsychosocial obstacles to participation
- All players communicating openly and acting together (case conference) to identify and, where possible, help person and employer to address those.
- Avoiding blame and conflict
Management of UL disorders and the biopsychosocial model
UK Health and Safety Executive 2008

- give evidence-based information/advice to person and significant others
- adopt a can-do approach
- dispel myths
- focus on/encourage/support recovery, early activity, work rather than what's happened
- regular expressions of interest from employer
- only provide treatment when/if required
- beware detrimental labels and over-medicalisation
In general, resting delays recovery

**Early RTW or work retention**

- Wide consensus that is an important goal
- early activity improves pain and stiffness
- will usually do no harm (does not increase complications or residual symptoms)
- some work will be difficult or impossible for a short while but that does not mean the work is unsafe
- absence may be appropriate if job demands of good work (despite accommodations/interventions) cannot be tolerated.
Heads of Workers’ Comp Authorities
Biopsychosocial injury management principles

- Goal planning should commence as soon as possible and reflect the values and benefits of patient-centred care (ACC)

- Active engagement of person and working towards a common goal via tailored multi-D activity focused program for persistent pain related disability

- Focus on increasing activity and RTW, what can and not can’t do

- Regular review of progress and management of risk factors
Endeavour to make work comfortable and accommodating

- assess and control significant risks
- ensure physical demands are within normal capabilities
- however, don’t rely on ergonomics alone
- accommodating cases shows more promise than prevention.
Certification

- certify capacity based on your opinion of capacity of entire person, not just the affected limb
- preferable to not certify specific jobs.
- not influenced by your perception of what’s available
- what the person can, rather than can’t do
- always consider transitional work arrangements (only if required, and time-limited).
Return To Work Recommendations

- Normal duties, original jobs with some modification, alternative duties or combination of the above - normal or reduced hours.
- Work hardening placement elsewhere - normal or reduced hours.
- Unfit for work – time frame required.
Suitable duties

- Specific for the person
- Matched to capabilities
- Dignity and job satisfaction
- Time-limited
- Regularly reviewed
- Not disadvantaging fellow co-workers
Return to work plans

**Essentials**

- often can be an immediate return to full-time work
- early and timely return to work will achieve the best long-term outcome
- establish normal working pattern ASAP
- timeframe needed for worker and employer
Return to work plans

Time frames based on balance between

- physical status
- psychological status
- available duties

Graduation of hours

- 4 hours (over lunch) x 3 days for to 1 to 2 weeks, 4 hours x 5 days, 6 hours x 5 days then full time
Return to work plans

Graduation in duties

- relies on conditioning
- build up to full hours first
- some discomfort as duties increase as part of physical conditioning

Other considerations - Rest breaks, micro-pauses, work peaks, pre-injury fitness
Predictors of poor outcome

- industrial (blue flags)
- personal biopsychosocial (yellow flags).
- belief that pain = tissue damage.
- obvious fear avoidance behaviour
- depressed mood and withdrawal from social interaction
- expecting passive treatment rather than active participation will help
Managing the at risk patients

- Provide diagnosis/explanation/prognosis/reassurance
- Address pain management/emotional distress/physical therapy
- Educate about the dangers of lack of activity
- Promote self-management/‘well’ behaviours
- Prescribed an aerobic exercise program
- Don't over-investigate or over-medicate
Managing the at risk (or post surgical) patient

- more function and fewer pain based questions
  - address negative beliefs eg hurt = harm, no work until cured
- foster a positive expectation of return to work and normal activity
- educate significant others
- arrange regular expressions of interest from the employer
- maintain interest in improvement
- Consider OP if not progressing as expected or presence of negative predictive factors
Workplace Assessment/Job Analysis

Indications:

- Causation
- Identifying psychosocial barriers
- Conflicting ideas or concerns of available/suitable work
- Possible workplace modifications
- Goal planning/return to work plans
- Failed graduated return to work program
- Condition not resolving with an expected timeframe
Workplace Assessment

Purpose:

- identification of risk factors/investigation for other causes eg industrial factors
- implementation of appropriate return to work plan
- graduated hours definition
- graduated duties definition
Workplace Assessment

Who:

- Industrial physiotherapist
- Occupational therapist
- Ergonomist
- Occupational physician
- General practitioner
- Rehabilitation officer