

OHS

Manual Handling



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Manual Handling / Manual Tasks (various definitions)

- ❑ 'Manual handling' is physical work activity
- ❑ Defined as “any activity requiring a person to use any part of their muscular or skeletal system in their interactions with their workplace” NOHSC
- ❑ Manual handling is any activity requiring the use of force exerted by a person to lift, lower, push, pull, carry or otherwise move, hold or restrain any animate or inanimate object
NSW OHS REG CL79



National Strategies

□ ***National OHS Strategy 2002-2012***

1. Reduce high severity risk
2. Improve effective OHS management by business / workers
3. More effectively prevent occupational disease
4. Eliminate hazards during design
5. Increase government capacity to influence OHS outcomes

National Occupational Health & Safety Commission

Commonwealth of Australia, 2005

ASCC (Australian Safety and Compensation Council)

- ▣ *National Standard for Manual Tasks 2007*
 - ▣ *National Code of Practice for the prevention of musculoskeletal disorders (MSD) from manual tasks at work*
- www.ascc.gov.au



Manual handling statistics

NSW 2004/2005

- ❑ 37% of all major injuries
- ❑ Cost \$370 million
- ❑ 17,000 workers compensation claims

NSW 2006/2007

- ❑ 60% injuries strains and sprains
- ❑ Cost \$319m sprains and strains
- ❑ 9,016 manual handling injuries
- ❑ 31% injuries manual tasks
- ❑ Back injuries \$25% of these claims
- ❑ 11% back injuries permanent disability
- ❑ Cost Back injuries \$125 million

Principal agencies crates, cartons, boxes

Source WorkCover



NSW Legislation

- OHS Act 2000

s8 Employer must ensure the health, safety and welfare of all employees of the employer.

s8(2) Others at workplace....not exposed to risks

s20 An employee must ..take reasonable care...co operate .. to enable compliance....

- OHS Regulation 2001 Part 4.4 Cl 79-81

Risk Assessments must consider

(OHS Regulation 2001 Clause 81)

- ❑ Actions and movements (including repetitive actions and movements)
- ❑ Workplace and workstation layout
- ❑ Duration and frequency of manual handling
- ❑ Location of loads and distance moved
- ❑ Weights and forces
- ❑ Characteristics of load and equipment
- ❑ Work organisation
- ❑ Work environment
- ❑ Skills and experience
- ❑ Age
- ❑ Clothing
- ❑ Special needs (permanent and temporary)
- ❑ Other factors



Manual handling in the workplace

- ❑ Manual handling methods adopted are workplace **behaviours** – they can be modified
- ❑ Poor manual handling is associated with increased risk of musculoskeletal injury



Will he suffer an injury?



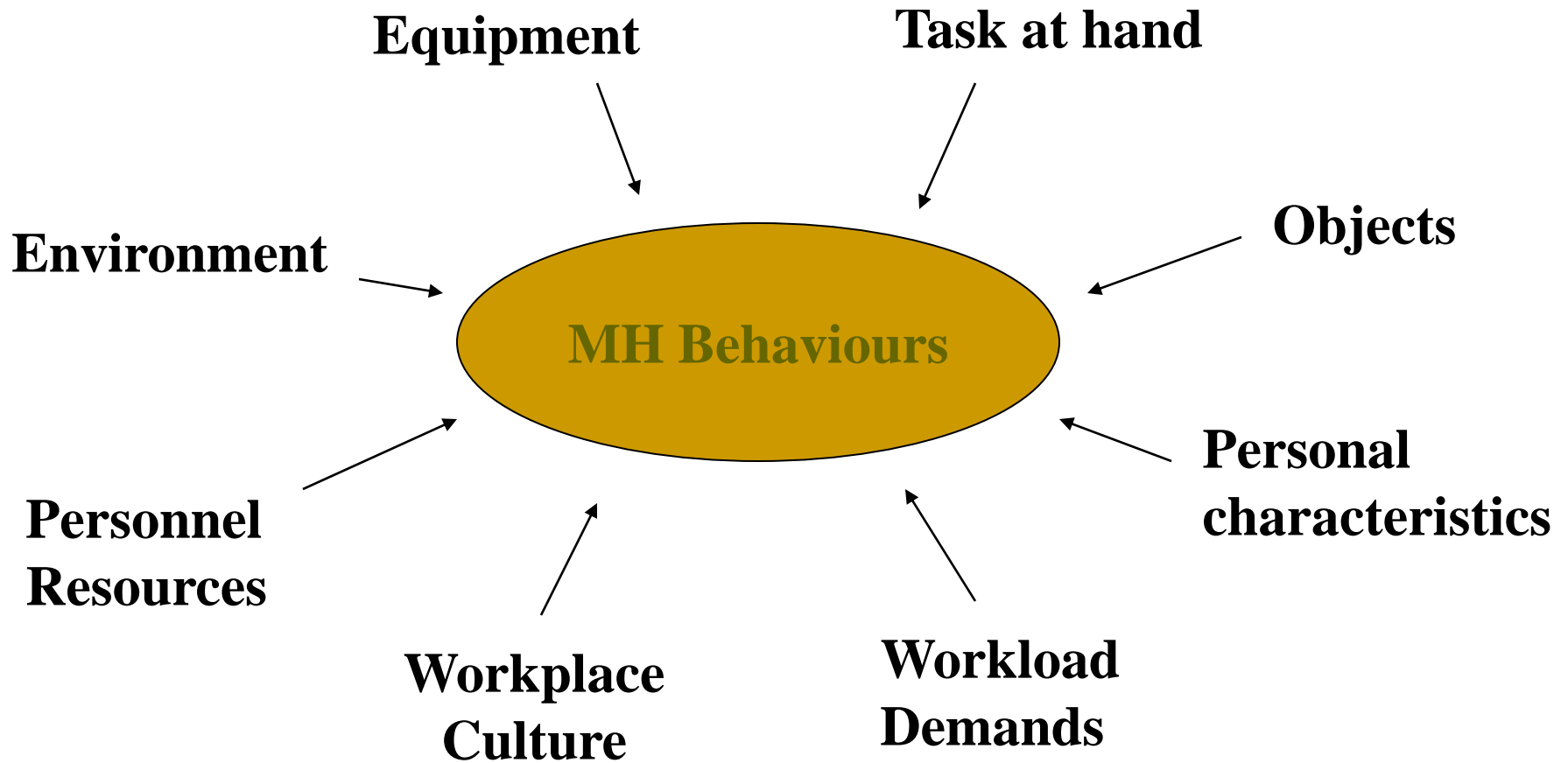
Complexity

Work related injuries are multi-factorial on nature

- ❑ Was it the level of the load
- ❑ Was it the technique of lifting/
- ❑ Was the client physically fit vs overweight/
- ❑ Was the person under stress?
- ❑ Was the task repetitive or involve static postural loading?



Factors Influencing Manual Handling Behaviours



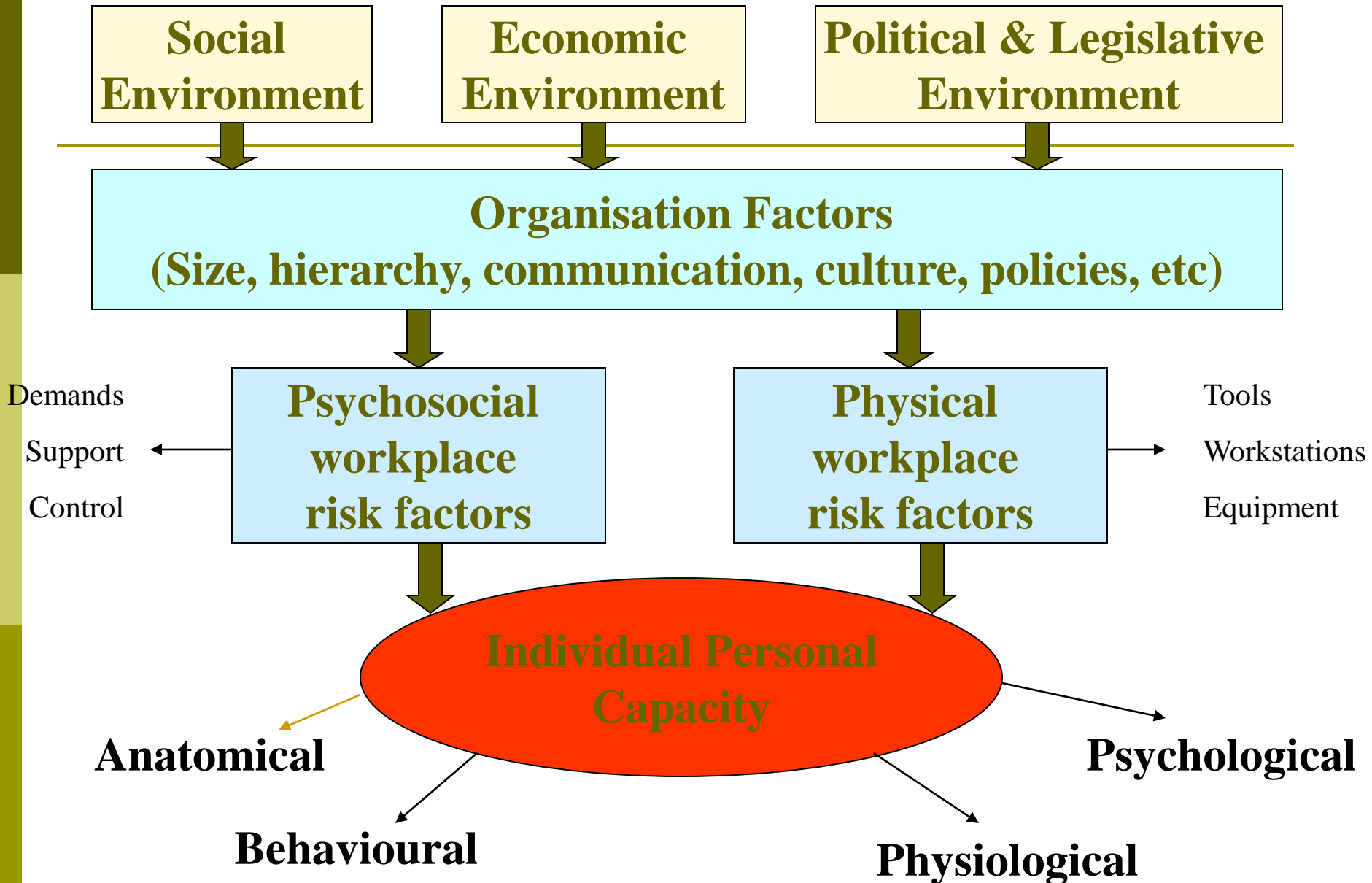
Lumbar Case Consideration

- ❑ What factors contributed to the injury?
 - ❑ Workload?
 - ❑ Environment?
 - ❑ Physical condition?
- ❑ Should these be considered in an assessment?
- ❑ Can any of these factors be addressed to reduce the risk of re-injury?

Think about the bigger picture



Expanded Definition of Ergonomics, Figure 8-1 (Sanders, 2004)



Perceived Behavioural Control

- Safe-lifting was found to be more related to a person's feeling of control than what other people thought about the behaviour
- How well employees accept the importance of safe-lifting and feel empowered to create conditions increases the likelihood of lifting safely (Johnson & Hall 2005)



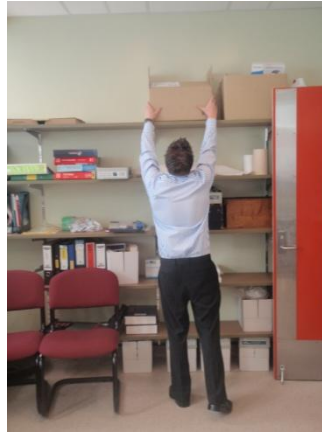
Ergonomics

- ❑ Ergonomics is the science relating to the efficient use of human energy in the workplace
- ❑ Includes design of work environment, tools & equipment
- ❑ Manual handling safety is largely determined by the ergonomic setup of a workplace

Sanders (2004)
Dorlands(1989)



Work height is associated with risk of injury



Ergonomic design attempts to reduce these risks



Injury Prevention Strategies

- Assessing risk
- Ergonomic design & intervention
- Careful planning of each task
- Awareness of the work environment
- Addressing manual handling technique

Space impacts on manual handling



Controlling risk options

- ❑ Eliminate the task
- ❑ Modify the work area / workstation
- ❑ Modify the object
- ❑ Use mechanical aids
- ❑ Modify the method of performance
- ❑ Modify the task
- ❑ Utilise equipment available
- ❑ Address management issues & cultural behaviours in the workplace



Correct technique is important



Controlling Risk

Do you have the time for all this??

Make the time!!

Think before you act.

Injury prevention is far better than injury management.

Manual Handling Risk Factors

1. Sudden, jerky or hard to control movements
2. Bending, reaching or twisting
3. Sustained postures or positions
4. Fast or repetitive work
5. Heavy loads

Manual Handling

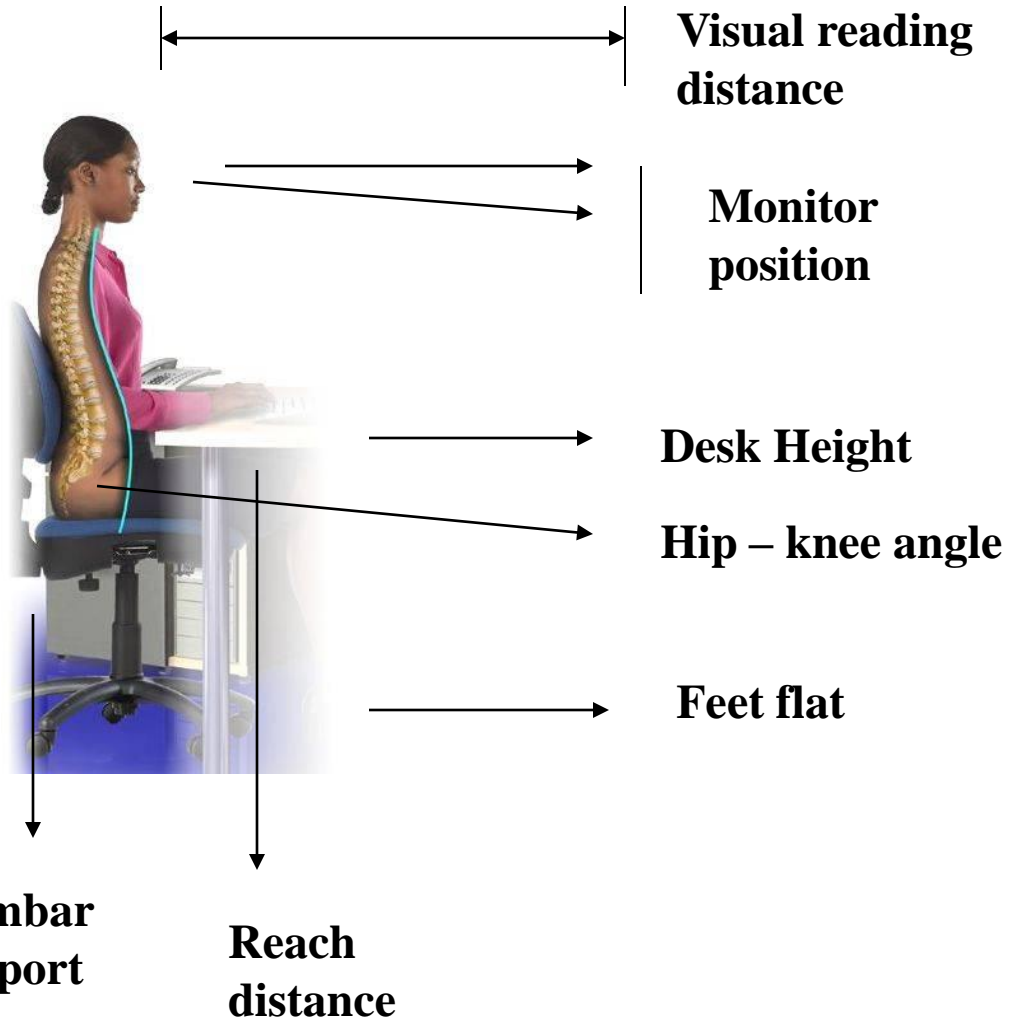
▣ Dynamic Activities



▣ Static or Sustained Postures



Workstation Setup (www.cardinus.com)



Basic principles relating to workstation setup

Lifting within Manual Handling



How much weight can be lifted?

❑ No simple answer!

❑ Considering the weight of an object alone will not significantly reduce the risk of injury



Factors associated with lifting

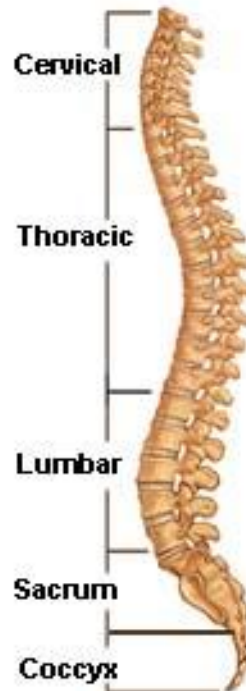
- Assessment of relative lifting risk involves:
 - Technique of lifting
 - Size and shape of item (30cm-50cm)
 - Individual personal capacity
 - The time taken to lift the object
 - The frequency of lifting required



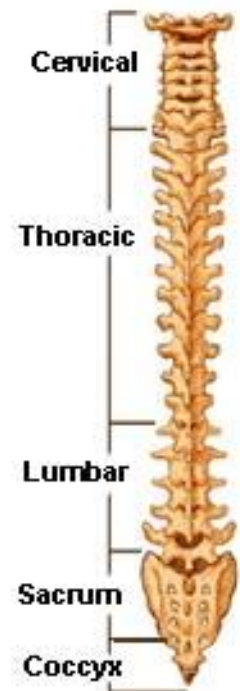
Basic Biomechanics During Manual Handling Tasks

Maintenance of positions
& postures with
mechanical advantage

Lateral (Side)
Spinal Column

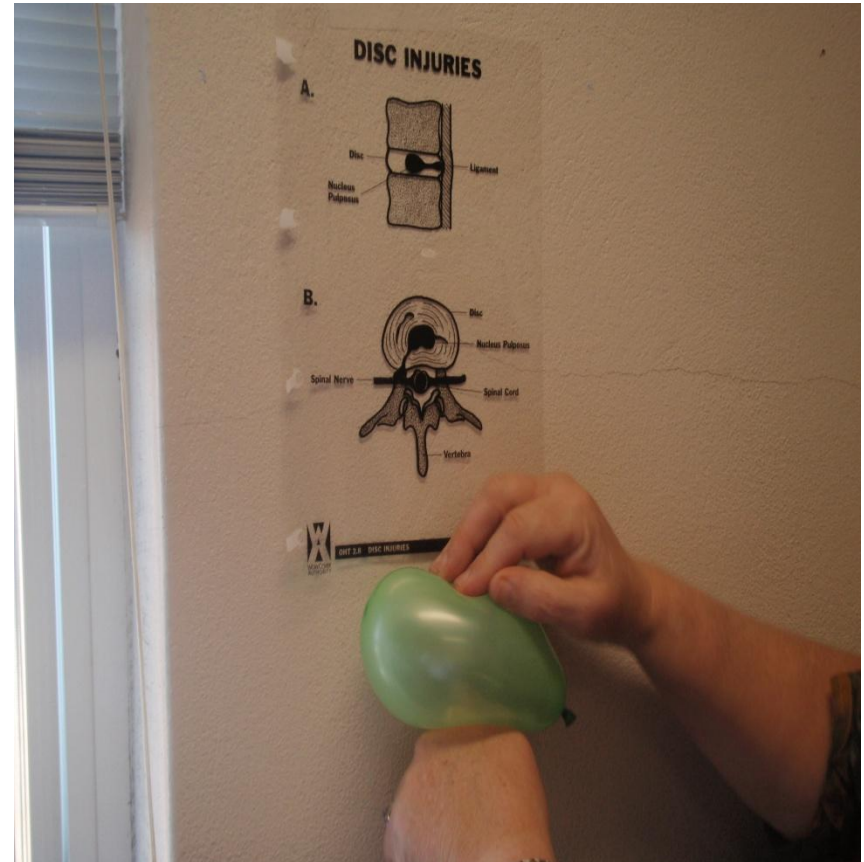


Posterior (Back)
Spinal Column



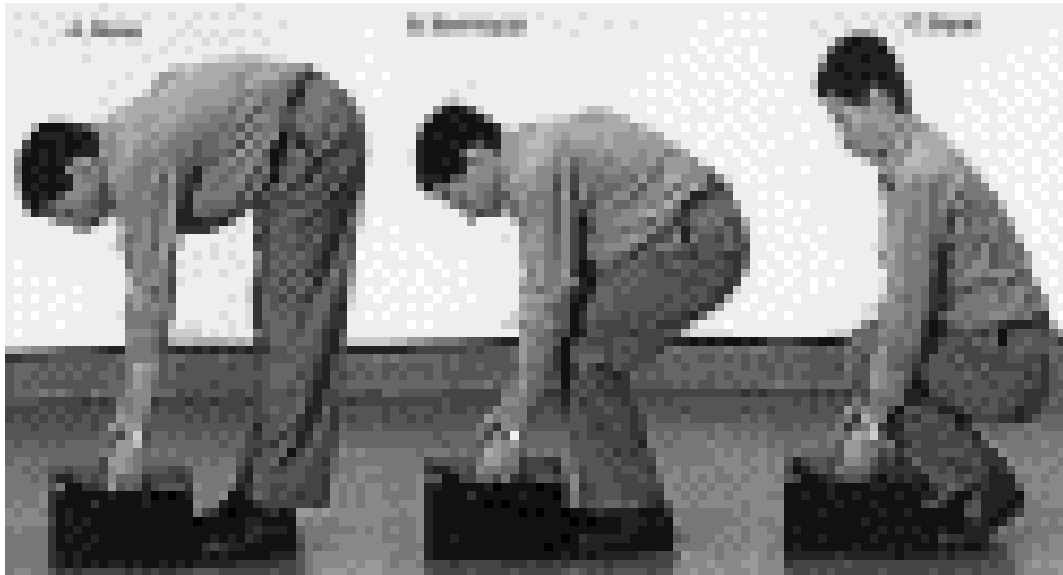
Disc pressure

- ❑ Avoid uneven pressure on disc



Traditional Lifting Techniques

- Stoop, semi-squat and squat



Straker (2003)

Lifting Related Research

- ❑ Semi-squat is observed as the more common practiced technique
- ❑ Clinical beliefs associate stoop lifting with increased risk of injury
- ❑ Biomechanical based research is not conclusive between semi-squat and squat

Striker 2003



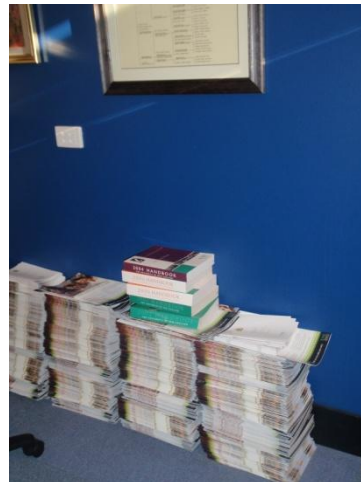
Lifting Guidelines

- Utilise mechanical aids (hoists, etc)
- Reduce the load (weight)
- Keep the load close to the body
- Avoid lifting from a stooped posture
- Avoid lateral trunk flexion while lifting

Straker (2003a)

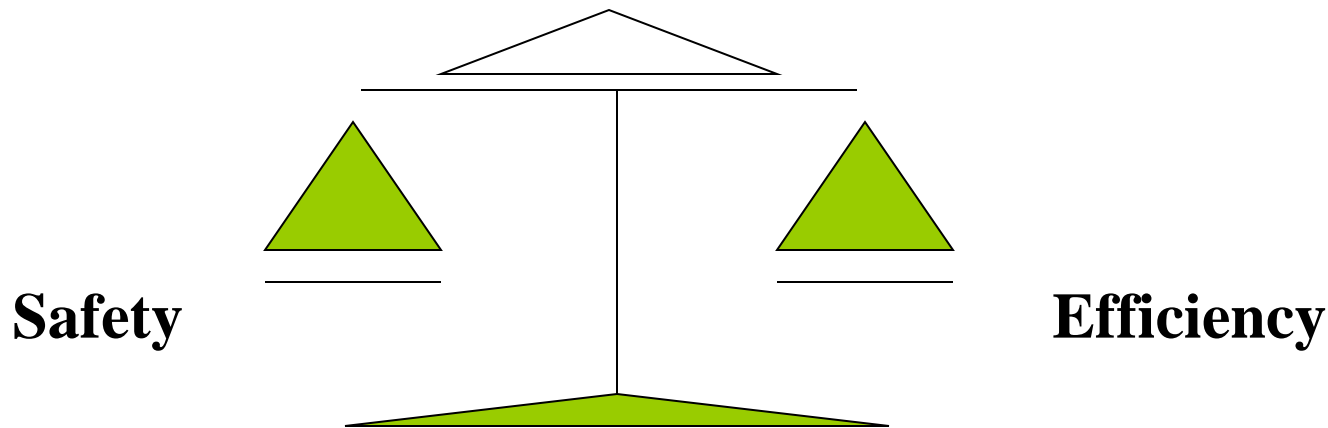
Lifting Guidelines

- ❑ Avoid trunk rotation while lifting
- ❑ Move feet when changing directions
- ❑ Raise the initial height of low loads
- ❑ Work between hip and shoulder heights
- ❑ Push / pull in line with body (i.e. not across body)



Lifting Guidelines

- ❑ Avoid high acceleration of the load (lift smoothly)
- ❑ Take the time to perform the task safely



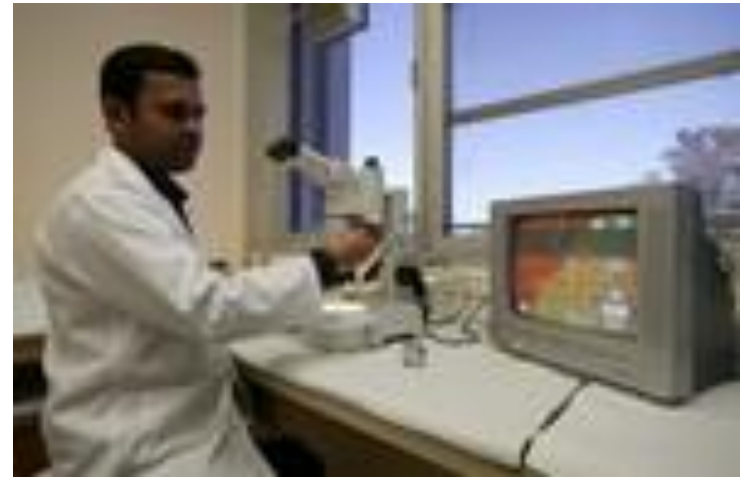
Manual Task Safety Programs

- **Smart move** aims to reduce NSW workers compensation claims for manual handling injuries by 40 per cent by 2011/12. This will be done by; :
 - improving awareness of manual handling in the workplace
 - increasing knowledge and skills
 - targeting workplace interventions to industry 'black spots'
 - developing effective prevention strategies through strategic partnerships
 - working in partnership with our stakeholders to develop messages that meet the needs of industry in NSW.
- **ThinkSMART** Queensland health – video and training packages
- WorkedWELL-DVD patient handling www.workedwell.com.au



Workers Compensation

- ❑ Students not eligible
- ❑ Only work related injuries to staff
- ❑ Need medical certificate prior to claim submission
- ❑ Treating physician primary decision maker
- ❑ Individual Return to Work Plans



Referral Options

- Additional resources related to manual handling and workplace assessments:
 - Physiotherapists
 - Occupational Therapists
 - Ergonomists

References

- ❑ Dorlands (1989). Medical Dictionary (24th Edition). WB Saunders Co.: Philadelphia.
- ❑ NOHSC (2003). Barriers to the adoption of safe manual handling practices. A literature review. Data Analysis & Research Coordination, National Occupational Health & Safety Commission (NOHSC). Canberra, Australia.
- ❑ NOHSC (2005). National code of practice for the prevention of musculoskeletal disorders (MSD) from manual handling at work. NOHSC.
- ❑ NOHSC (1995). Core training elements for the national standard for manual handling. NOHSC.
- ❑ WorkCover (2008) Smart Move Manual Handling risk Guide
- ❑ WorkCover (2008) Statistical Bulletin 2006/2007

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- Sanders M. J. (2004) Ergonomics & the management of MSD's. Butterworth Heinemann: Missouri.
- Straker L (2003) Evidence to support using squat, semi-squat and stoop techniques to lift low lying objects. *International Journal of Industrial Ergonomics*, 31(3), 149-160.
- Straker L (2003a) Evidence to support using squat, semi-squat and stoop techniques to lift low lying objects. *International Journal of Industrial Ergonomics*, 31(3), 143-148.
- Johnson & Hall (2005) The prediction of safe lifting behaviour: An application of the theory of planned behaviour. *Journal of Safety Research*, 36(1), 63-73

Australian Standards

Australian standards

- ❑ AS 2569.2 - 1987: Guide to the Lifting and Moving of Patients. Part 2 - Selection and use of Mechanical Aids for Patient Lifting and Moving.
- ❑ AS 3581 - 1988: Mechanical Aids for Patient Lifting and Moving - Safety Requirements.
- ❑ AS 1428 Design for Access and mobility (Pt 1-4)
- ❑ AS EN 12182 - 2002: Technical Aids for Disabled Persons - General requirements and methods.
- ❑ AS ISO 10535 - 2002: Hoists for the Transfer of Disability Persons - Requirements and test methods.



□ Any questions ?



For further information call **13 10 50**
or visit www.smartmove.nsw.gov.au

Safe manual handling ▶ **Smart Move**

