

Ensuring our practical skills are reducing the risk

Dimity Wadsworth & Rosi Gates
WorkFit Services
SA Health



**Government
of South Australia**

SA Health



The challenges

- > Incorporating new WHS Legislation
- > Practical skills based training v theoretical
- > Limited time to achieve best outcome
- > Large numbers of workers to train
- > Skills training that will facilitate positive change



Some background

- > 6 years in current role (16+ years as manual handling trainers)
- > Focus of current model - 2 day practical training of Manual Tasks Local Facilitators
- > Content of 2 days has evolved including development of tools
- > Incorporating participatory approach



What does the literature say?

- > Literature suggests that manual handling or technique training alone is ineffective ^{1,2}
- > Multifactor interventions, including those based on risk assessment, found to be effective ^{1,2}
- > Evidence that ergonomics interventions with a participatory focus are particularly effective ³

1. Haslam, C., Clemes, S., McDermott, H., Shaw, K., Williams, C. & Haslam, R., 2007. Manual handling training: investigation of current practices and development of guidelines. *Health and Safety Executive*, RR583 Research Report.
2. Hignett, S., 2003. Intervention strategies to reduce musculoskeletal injuries associated with handling patients: a systematic review. *Occupational and Environmental Medicine*, 60:e6.
3. Rivlis, I., Van Eerd, D., Cullen, K., Cole, C., Irvin, E., Tyson, J. & Mahood, Q., 2008. Effectiveness of participatory ergonomic interventions on health outcomes: a systematic review. *Applied Ergonomics*, 39, p.342-358.



Participatory ergonomics

Simple definition:

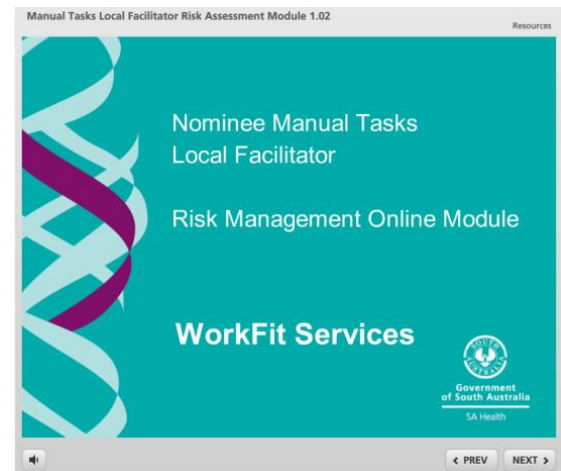
- > Empowering workers to design and change the worksite

Driessen, M.T., Anema, J.R., Proper, K.I., Bongers, P.M. & van der Beek, A.J., 2008. Stay@work: participatory ergonomics to prevent low back and neck pain among workers: design of a randomised controlled trial to evaluate the (cost-)effectiveness. *BMC Musculoskeletal Disorders*, 9(145).

Theory component

Theory:

- > Interactive online modules developed to cover theory prior to practical
- > One module covers basic information and principles
- > Separate module guides worker through full Risk Assessment using Hazardous Manual Tasks Code of Practice
- > Theory is also embedded throughout 2 days



Practical component

Practical training emphasises:

- > Safe work postures and actions
- > Safe manual handling principles



Practical component

Patient handling tasks:

- > Underlying movement pattern
- > Foundation move
- > Move adapted to work scenarios





Facilitating positive change

- > Knowing how equipment works and how to use it effectively
- > Understanding movement patterns
- > Safe work postures and principles of handling patients
- > Risk assessment – taking theory into practice **TOOL 1**
- > Understanding how to adapt moves while respecting the principles **TOOL 2**

Our tools

> Tool 1: Small Group Activity

> Tool 2: Assessing a Move

WorkFit Services, Work & Force Health

Manual Task Local Facilitator Course

Small Group Activity: to look at a common work task, identify hazards & associated risks and suggest changes / controls to increase the safety of workers. Choose a task that you wish to assess / change (e.g. one that has caused injuries, discomfort, staff avoid.)

TASK CHOSEN:		
Step 1: One person from group undertakes task. ("Mock-up" as best you can, others observe task and complete table below – ticking 'yes' or 'no' against each point. A tick in the shaded section indicates a change is required to increase safety.	Step 2: List any changes / controls to improve the safety of workers undertaking the task – may include changes to: <ul style="list-style-type: none">Layout / environmentEquipment usedWay task is undertaken	Step 3: Repeat task with changes implemented – "mock-up" as best you can. Once again observe task and complete table below. (There are no changes from Step 1 – go back to Step 2!)
Hazardous Manual Task Characteristics	Yes	No
Repetitive or sustained force		
High or sudden force		
Sustained or awkward posture		
Repetitive movement		
Exposure to vibration		
Principles of Physical Safety	Yes	No
Spinal curves maintained		
Use legs for power		
Keep feet close		
Move feet to avoid twisting		
Spine supported throughout move		
*If there are still ticks in the shaded area following the implementation of changes / controls – additional control measures will be needed to ensure staff safety		
Group Feedback: - Demonstrate how the task is usually undertaken in the workplace <ul style="list-style-type: none">- Summarise the changes / recommendations to improve safety- Demonstrate the task following the changes- Group to add in any other suggestions / recommendations		
Implementation: What can you do to implement these changes into the workplace? _____		

WorkFit Services, Work & Force Health

Manual Tasks Local Facilitator Course

Assessing a Move– is it safe?

When adapting a move to fit different situations use the following checklist to see if it still meets the safe criteria. If it doesn't then consider what is missing and how things need to be changed to make it safe. Before undertaking the task space requirements and capacity of the patient and the others assisting with the task should have been assessed.

Moving People	Yes	No
Move being assessed:		
Patient		
Can the patient / client still move through the normal movement pattern?		
Is there anything blocking the free space patient needs to move through?		
Can the patient still assist if they are able to?		
Does the patient feel comfortable and secure?		
Workers		
Can the workers adopt safe postures – no twisting, normal spinal curves?		
Are workers able to place holds without overreaching or getting into awkward positions?		
Are workers able to apply forces that minimise the effort (e.g. horizontal when pushing / pulling, along when using side shear and so on)?		
Is the power for the move coming from the legs or a shift of body weight?		
If there is a shift of body weight is spinal fixation maintained?		
If more than one worker can they all make eye contact with the leader?		
Equipment Use		
Is there equipment that could be used to reduce hazards that is not being used?		
Does any equipment used allow workers to take holds that are:		
Easily released		
Maintain neutral joint positions		
Comfortable for both patient and worker		
Does any equipment used allow workers to maintain good posture?		
Are there ticks in any shaded boxes?	Yes, move is safe	No, move is not safe!
Show how you can further adapt the move so that there are no ticks in shaded boxes		

> Both designed to be used in training and the work place

Tool 1: Small Group Activity form



WorkFit Services, Work Force Health



Government of South Australia
SA Health

Manual Task Local Facilitator Course

Small Group Activity: to look at a common work task, identify hazards & associated risks and suggest changes / controls to increase the safety of workers. Choose a task that you wish to assess / change (e.g. one that has caused injuries, discomfort, staff avoid...)

TASK CHOSEN:																																																																														
Step 1: One person from group undertakes task ("mock-up" as best you can), others observe task and complete table below – ticking 'yes' or 'no' against each point. A tick in the shaded section indicates a change is required to increase safety.		Step 2: List any changes / controls to improve the safety of workers undertaking the task – may include changes to:		Step 3: Repeat task with changes implemented – "mock-up" as best you can. Once again observe task and complete table below. If there are no changes from Step 1 – go back to Step 2!																																																																										
<table border="1"> <thead> <tr> <th>Hazardous Manual Task Characteristics</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>Repetitive or sustained force</td><td></td><td></td></tr> <tr><td>High or sudden force</td><td></td><td></td></tr> <tr><td>Sustained or awkward posture</td><td></td><td></td></tr> <tr><td>Repetitive movement</td><td></td><td></td></tr> <tr><td>Exposure to vibration</td><td></td><td></td></tr> </tbody> </table>	Hazardous Manual Task Characteristics	Yes	No	Repetitive or sustained force			High or sudden force			Sustained or awkward posture			Repetitive movement			Exposure to vibration				<table border="1"> <thead> <tr> <th>Principles of Physical Safety</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>Spinal curves maintained</td><td></td><td></td></tr> <tr><td>Use legs for power</td><td></td><td></td></tr> <tr><td>Keep load close</td><td></td><td></td></tr> <tr><td>Move feet to avoid twisting</td><td></td><td></td></tr> <tr><td>Spine supported throughout move</td><td></td><td></td></tr> </tbody> </table>	Principles of Physical Safety	Yes	No	Spinal curves maintained			Use legs for power			Keep load close			Move feet to avoid twisting			Spine supported throughout move			Prompt questions (in addition to points listed above): Does this task need to be done at all / as often? Is there equipment that can do the task / make it easier? Do you need more staff to undertake task?	<table border="1"> <thead> <tr> <th>Hazardous Manual Task Characteristics</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>Repetitive or sustained force</td><td></td><td></td></tr> <tr><td>High or sudden force</td><td></td><td></td></tr> <tr><td>Sustained or awkward posture</td><td></td><td></td></tr> <tr><td>Repetitive movement</td><td></td><td></td></tr> <tr><td>Exposure to vibration</td><td></td><td></td></tr> </tbody> </table>	Hazardous Manual Task Characteristics	Yes	No	Repetitive or sustained force			High or sudden force			Sustained or awkward posture			Repetitive movement			Exposure to vibration				<table border="1"> <thead> <tr> <th>Principles of Physical Safety</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr><td>Spinal curves maintained</td><td></td><td></td></tr> <tr><td>Use legs for power</td><td></td><td></td></tr> <tr><td>Keep load close</td><td></td><td></td></tr> <tr><td>Move feet to avoid twisting</td><td></td><td></td></tr> <tr><td>Spine supported throughout move</td><td></td><td></td></tr> </tbody> </table>	Principles of Physical Safety	Yes	No	Spinal curves maintained			Use legs for power			Keep load close			Move feet to avoid twisting			Spine supported throughout move		
Hazardous Manual Task Characteristics	Yes	No																																																																												
Repetitive or sustained force																																																																														
High or sudden force																																																																														
Sustained or awkward posture																																																																														
Repetitive movement																																																																														
Exposure to vibration																																																																														
Principles of Physical Safety	Yes	No																																																																												
Spinal curves maintained																																																																														
Use legs for power																																																																														
Keep load close																																																																														
Move feet to avoid twisting																																																																														
Spine supported throughout move																																																																														
Hazardous Manual Task Characteristics	Yes	No																																																																												
Repetitive or sustained force																																																																														
High or sudden force																																																																														
Sustained or awkward posture																																																																														
Repetitive movement																																																																														
Exposure to vibration																																																																														
Principles of Physical Safety	Yes	No																																																																												
Spinal curves maintained																																																																														
Use legs for power																																																																														
Keep load close																																																																														
Move feet to avoid twisting																																																																														
Spine supported throughout move																																																																														

*If there are still ticks in the shaded area following the implementation of changes / controls – additional control measures will be needed to ensure staff safety

Group Feedback:

- Demonstrate how the task is usually undertaken in the workplace
- Summarize the changes / recommendations to improve safety
- Demonstrate the task following the changes
- Group to add in any other suggestions / recommendations

Implementation: What can you do to implement these changes into the workplace? _____

Step 1

TASK CHOSEN:

Step 1: One person from group undertakes task (“mock-up” as best you can), others observe task and complete table below – ticking ‘yes’ or ‘no’ against each point. A tick in the shaded section indicates a change is required to increase safety.

Hazardous Manual Task Characteristics	Yes	No
Repetitive or sustained force		
High or sudden force		
Sustained or awkward posture		
Repetitive movement		
Exposure to vibration		
Principles of Physical Safety	Yes	No
Spinal curves maintained		
Use legs for power		
Keep load close		
Move feet to avoid twisting		
Spine supported throughout move		



Step 2

Step 2: List any changes / controls to improve the safety of workers undertaking the task – may include changes to:

- Layout / environment
- Equipment used
- Way task is undertaken

Prompt questions (in addition to points listed above):

Does this task need to be done at all / as often?

Is there equipment that can do the task / make it easier?

Do you need more staff to undertake task?

Step 3

Step 3: Repeat task with changes implemented – “mock-up” as best you can. Once again observe task and complete table below. If there are no changes from Step 1 – go back to Step 2!*

Hazardous Manual Task Characteristics	Yes	No
Repetitive or sustained force		
High or sudden force		
Sustained or awkward posture		
Repetitive movement		
Exposure to vibration		
Principles of Physical Safety	Yes	No
Spinal curves maintained		
Use legs for power		
Keep load close		
Move feet to avoid twisting		
Spine supported throughout move		

Implementation

*If there are still ticks in the shaded area following the implementation of changes / controls – additional control measures will be needed to ensure staff safety

Group Feedback: -

- Demonstrate how the task is usually undertaken in the workplace
- Summarize the changes / recommendations to improve safety
- Demonstrate the task following the changes
- Group to add in any other suggestions / recommendations

Implementation: What can you do to implement these changes into the workplace?



Applications

- > In training – as a “practical” Risk Assessment
- > As a check – is a proposed solution going to reduce the risk?
- > In the workplace – to identify the hazards and make changes to reduce the risk
- > To make workers **think** through a solution

Tool 2: Assessing a move

WorkFit Services, Workforce Health		
Manual Tasks Local Facilitator Course		
Assessing a Move– is it safe?		
When adapting a move to fit different situations use the following checklist to see if it still meets the safe criteria. If it doesn't then consider what is missing and how things need to be changed to make it safe.		
Before undertaking the task space requirements and capacity of the patient and the others assisting with the task should have been assessed.		
Moving People	Yes	No
Move being assessed:		
Patient		
Can the patient / client still move through the normal movement pattern?		
Is there anything blocking the free space patient needs to move through?		
Can the patient still assist if they are able to?		
Does the patient feel comfortable and secure?		
Workers		
Can the workers adopt safe postures – no twisting, normal spinal curves?		
Are workers able to place holds without overreaching or getting into awkward positions?		
Are workers able to apply forces that minimise the effort (eg horizontal when pushing / pulling, tipping when using slide sheet etc)?		
Is the power for the move coming from the legs or a shift of body weight?		
If there is a shift of body weight is spinal fixation maintained?		
If more than one worker can they all make eye contact with the leader?		
Equipment Use		
Is there equipment that could be used to reduce hazards that is not being used?		
Does any equipment used allow workers to take holds that are:		
Easily released		
Maintain neutral joint positions		
Comfortable for both patient and worker		
Does any equipment used allow workers to maintain good posture?		
Are there ticks in any shaded boxes?	⊗	⊗
	The move is NOT safe!	The move is safe!
ⓈHow can you further adapt the move so that there are no ticks in shaded boxes?		

Impact on patient

Moving People	Yes	No
Move being assessed:		
Patient		
Can the patient / client still move through the normal movement pattern?		
Is there anything blocking the free space patient needs to move through?		
Can the patient still assist if they are able to?		
Does the patient feel comfortable and secure?		

Impact on worker

Workers		
Can the workers adopt safe postures – no twisting, normal spinal curves?		
Are workers able to place holds without overreaching or getting into awkward positions?		
Are workers able to apply forces that minimise the effort (eg horizontal when pushing / pulling, tipping when using slide sheet etc)?		
Is the power for the move coming from the legs or a shift of body weight?		
If there is a shift of body weight is spinal fixation maintained?		
If more than one worker can they all make eye contact with the leader?		

Equipment

Equipment Use		
Is there equipment that could be used to reduce hazards that is not being used?		
Does any equipment used allow workers to take holds that are:		
Easily released		
Maintain neutral joint positions		
Comfortable for both patient and worker		
Does any equipment used allow workers to maintain good posture?		

Is it Safe?

Are there ticks in any shaded boxes?	☹️	☺️
	The move is NOT safe!	The move is safe!
ⓂHow can you further adapt the move so that there are no ticks in shaded boxes?		



Applications

An objective measure to evaluate:

> During training :

- a technique taught
- entrenched practises
- invented /adapted solutions to clinical issues

> In the workplace:

- If facilitators have developed appropriate / safe solutions



Summary

Need a multifactorial approach

Tools aim to:

- > Assist participants to take training into workplace
- > Empower workers to find own solutions
- > Give an objective measure of solutions
- > Ensure our practical skills are reducing the risk!



Contact

Dimity Wadsworth & Rosi Gates

WorkFit Training Consultants

Workforce Health, SA Health

System Performance

Department of Health & Ageing

Address: Level 2, Eleanor Harrauld Building
Royal Adelaide Hospital
North Terrace
Adelaide

Telephone: (08) 8222 0712

Email: dimity.wadsworth@health.sa.gov.au & rosi.gates@health.sa.gov.au



References

- Chaput, R., 2003. Principles of physical safety. In P. Dotte. *Manutention. A manual handling of loads method*. Australian ed. Adelaide: Metropolitan Domiciliary Care. P17.
- Driessen, M.T., Anema, J.R., Proper, K.I., Bongers, P.M. & van der Beek, A.J., 2008. Stay@work: participatory ergonomics to prevent low back and neck pain among workers: design of a randomised controlled trial to evaluate the (cost-)effectiveness. *BMC Musculoskeletal Disorders*, 9(145).
- Haslam, C., Clemes, S., McDermott, H., Shaw, K., Williams, C. & Haslam, R., 2007. Manual handling training: investigation of current practices and development of guidelines. *Health and Safety Executive*, RR583 Research Report.
- Hignett, S., 2003. Intervention strategies to reduce musculoskeletal injuries associated with handling patients: a systematic review. *Occupational and Environmental Medicine*, 60:e6.
- Rivilis, I., Van Eerd, D., Cullen, K., Cole, C., Irvin, E., Tyson, J. & Mahood, Q., 2008. Effectiveness of participatory ergonomic interventions on health outcomes: a systematic review. *Applied Ergonomics*, 39, p.342-358.
- Safe Work Australia, 2011. *Hazardous manual tasks code of practice* [online]. Available at: <http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/hazardous-manual-tasks-cop> [accessed 22 May 2014]
- Wilson, J.R., 1995. Ergonomics and participation. In J.R. Wilson and E.N. Corlett, eds. *Evaluation of human work. A practical ergonomics methodology*. 2nd ed. London: Taylor and Francis. Ch. 37, p1071.



**Government
of South Australia**

SA Health