

CASE STUDY 2

DEVELOPING MANUAL HANDLING INTERVENTIONS & RESOURCES IN THE SCHOOL ENVIRONMENT

The following documents were developed by therapists to assist with managing manual handling risks. This case study steps through the risk management process for assisting a student with significant manual handling requirements.

Stage 1 – Identification - Data Collection

All daily activities of the student were noted and those that involved manual handling were listed in a “Daily Activities List”* (See Table 1). This allowed the staff to document all lifts, transfers and manual handling tasks that occurred each day. Documenting these also helped alert staff to the amount of “lifting” that occurred each day. A total of 20 “lifts” per day were performed for this student alone.

* The *Student Functional Assessment Form* can be used to summarise a student’s daily routine. This form is provided in the Manual Handling of Students Package.

Table1: Daily Activities List

Time	Activity	Details
Morning Session	Toileting Morning Session Group Program Standing Toileting	Lift from wheelchair to potty to plinth Carried to postural chair Lift to wheelchair Lift to stand at ladder Lift to potty to plinth to wheelchair
Morning Tea	Play Outside	Lift to floor and back to wheelchair
Middle Session	Conductive Education Prog. Toileting	Lift to plinth Supported stand from plinth Supported walk to chair Lift to Wheelchair In Wheelchair Lift to potty to plinth to wheelchair
Lunch	Play Outside M/W/Th/F is Standing	Lift to floor and back to chair Lift into standing frame and back to chair
Afternoon Session	Tues - Activity	Lift to floor and back to chair
Home Time		

CASE STUDY 2

Stage 2 – Risk Assessment

A risk assessment was undertaken of six of the highest priority manual handling tasks. The format was adopted from the templates in the *Manual Tasks Involving Handling People Advisory Standard 2001*. The process was completed in consultation with the staff members who worked with the student – teacher, teacher aides and therapists.

1. Activities were broken down into smaller parts (actions) so as they could be easily assessed. Direct risk factors and then contributing and modifying risk factors were identified. Many of the factors are common to all activities – these are listed.
2. The risk priority chart from the advisory standard was used to rank the actions in order of priority

The following Contributing and Modifying Risk Factors relate to all of Student's People Handling Actions:

Individual Characteristics of the Student

- Awkward to handle
- Unable to assist
- Unable to bear weight
- Has reduced postural control or balance
- Has conditions that require special handling
- Unable to communicate or understand fully when told what is to happen
- Unpredictable and likely to move suddenly
- Has a wheelchair that must be moved with student

Individual Characteristics of the Worker

- Inadequate knowledge to perform heavy people handling tasks
- Inadequate competency to make decisions about specific problems
- Inadequate knowledge to set up and use mechanical devices

Work Organisation

- People handling tasks occur frequently in one part of the shift
- Handling aids are not used on all occasions when they should
- Inadequate procedures and training in manual handling for staff

Table 2: Risk Priority Chart

1= Highest Priority and 7 = Lowest priority

Likelihood	Consequences			
	Extreme	Major	Moderate	Minor
Very likely	1	2	3	4
Likely	2	3	4	5
Unlikely	3	4	5	6
Very Unlikely	4	5	6	7

(From the People Handling Advisory Standard – Appendix 8)

CASE STUDY 2

Table 3: Risk Assessment

Activity and Task	Actions	Direct Risk Factors	Contributing and Modifying Risk Factors	Likelihood Consequences Priority for Attention
<p>1. MORNING TOILET</p> <p>One person lift from wheelchair to potty to plinth to wheelchair</p>	<p>1. Clear work area</p> <p>2. Position chair</p> <p>3. Lock brakes</p> <p>4. Release supports – shoulder, pelvis, laterals</p> <p>5. Students’ arms out</p> <p>6. Assist Student to lean forward</p> <p>7. Supported stand on footplates</p> <p>8. Pants down</p> <p>9. Lift</p> <p>10. Carry to potty</p> <p>11. Lift</p> <p>12. Carry to plinth</p> <p>13. Manage pants</p> <p>14. Raise to sitting</p> <p>15. Lift</p>	<p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Forceful exertion and Working Posture</p> <ul style="list-style-type: none"> • Back bent forward and backward • Neck bent back and twisted • Hands & Wrists grip Student <p>Repetition</p> <ul style="list-style-type: none"> • People handling actions occur frequently during day (up to 20 lifts) • 3 lifts in this sequence 	<p>Work Area Design</p> <ul style="list-style-type: none"> • Furniture is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> • Manual lift of person required • Worker required to support most of Student’s body weight • Plinth located below knuckle level • Bend to one side required with plinth • Plinth restricts movements • Student is slid across worker’s body on removal from plinth • Possible unnecessary transfers • Situations where people can fall or collapse 	<p>Very Likely</p> <p>Could happen frequently</p> <p>Major</p> <p>Serious injury</p> <p>2</p> <p>Requires Immediate Attention</p>

CASE STUDY 2

Activity and Task	Actions	Direct Risk Factors	Contributing and Modifying Risk Factors	Likelihood Consequences Priority for Attention
<p>2. MORNING SESSION</p> <p>Transfer to Adjusta Chair</p>	<p>1. Prepare Adjusta chair</p> <p>2. Carry Student to Adjusta chair in next room</p> <p>3. Lower into chair</p> <p>4. Place & position in chair</p> <p>5. Clasp seatbelt</p>	<p>Nil</p> <p>Forceful exertion and Working Posture</p> <ul style="list-style-type: none"> • Back bent forward and backward • Neck bent back and twisted • Extended reach • Hands & Wrists grip Student • Some sustained squatting <p>Repetition</p> <ul style="list-style-type: none"> • People handling actions occur frequently during day (up to 20 lifts) • 3 lifts in this sequence <p>Nil</p>	<p>Work Area Design</p> <ul style="list-style-type: none"> • Furniture is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> • Manual lift of person required • Worker required to support most of Student's body weight • Chair located below knuckle level • T/Aide must bend over to chair • Possible unnecessary transfers • Situations where people can fall or collapse 	<p>Likely</p> <p>Could happen occasionally</p> <p>Major</p> <p>Serious injury</p> <p>3</p> <p>Requires Immediate Attention</p>

CASE STUDY 2

<p>3. GROUP PROGRAM</p> <p>Two person lift to wheelchair from “Adjusta chair”</p>	<ol style="list-style-type: none"> 1. Clear work area 2. Position chair 3. Lock brakes 4. Remove lap strap 5. Student’s arms forward 6. Assist lean forward 7. Top and tail lift 8. Carry to wheel chair 9. Seat Student 10. Reposition 11. Lock supports – laterals, pelvis, shoulder 12. Release brakes 	<p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Forceful exertion and Working Posture</p> <ul style="list-style-type: none"> • Back bent forward and backward • Neck bent back and twisted • Hands & Wrists grip Student • Some sustained squatting <p>Repetition</p> <ul style="list-style-type: none"> • People handling actions occur frequently during day (up to 20 lifts) • 3 lifts in this sequence <p>Nil</p> <p>Nil</p>	<p>Work Area Design</p> <ul style="list-style-type: none"> • Furniture is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> • Manual lift of person required • Worker required to support most of Student’s body weight • Chair located below knuckle level • T/Aide must bend over to chair • Possible unnecessary transfers • Situations where people can fall or collapse 	<p>Likely</p> <p>Could happen occasionally</p> <p>Major</p> <p>Serious injury</p> <p>3</p> <p>Requires Immediate Attention</p>
---	---	---	--	---

CASE STUDY 2

<p>4. STANDING Lift to stand at ladder</p>	<ol style="list-style-type: none"> 1. Clear work area 1. Position chair 2. Lock Brakes 3. Remove supports - shoulder, pelvis, laterals 4. Student's arms out 5. Assist Student lean forward 6. 1st assistant in-front support under arms 7. 2nd assist support at knees 8. 1st assist lifts to stand on footplates 9. Lift to ladder 10. 1st assist support from behind 11. 2nd assist support knees 12. Assistance to grasp rails from 1st assist 13. Supported in standing for 1 minute 	<p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Forceful exertion and Working Posture</p> <ul style="list-style-type: none"> • Back bent forward and backward • Neck bent back and twisted • Hands & Wrists grip Student • Some sustained squatting <p>Repetition</p> <ul style="list-style-type: none"> • People handling actions occur frequently during day (up to 20 lifts) • 3 lifts in this sequence 	<p>Work Area Design</p> <ul style="list-style-type: none"> • Furniture is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> • Manual lift of person required • Worker required to support most of Student's body weight • Ladder located low • T/Aide must bend over • Possible unnecessary transfers • Situations where people can fall or collapse 	<p>Likely</p> <p>Could happen occasionally</p> <p>Major</p> <p>Serious injury</p> <p>3</p> <p>Requires Immediate Attention</p>
--	---	---	--	---

CASE STUDY 2

<p>5. TOILETING</p> <p>Two person lift from wheelchair to potty to plinth to wheelchair</p>	<ol style="list-style-type: none"> 1. Clear work area 2. Prepare wheel chair and potty 3. Lock brakes 4. Release supports - shoulder, pelvis, laterals 5. Student's arms out 6. Assist Student lean forward 7. Supported stand on footplates 8. Pants down 9. Lift 10. Carry to potty 11. Lift 12. Carry to plinth 13. Manage pants 14. Raise to sitting 15. Lift 16. Carry to wheelchair 17. Supported stand on footplates 18. Seat Student 19. Reposition 20. Lock supports – laterals, pelvis, shoulder 21. Release brakes 	<p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Nil</p> <p>Forceful exertion and Working Posture</p> <ul style="list-style-type: none"> • Back bent forward and backward • Neck bent back and twisted • Hands & Wrists grip Student <p>Repetition</p> <ul style="list-style-type: none"> • People handling actions occur frequently during day (up to 20 lifts) • 3 lifts in this sequence <p>Nil</p> <p>Nil</p>	<p>Work Area Design</p> <ul style="list-style-type: none"> • Furniture is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> • Manual lift of person required • Worker required to support most of Student's body weight • Plinth located below knuckle level • Bend to one side required with plinth • Plinth restricts movements • Student is slid across worker's body on removal from plinth • Possible unnecessary transfers <p>Situations where people can fall or collapse</p>	<p>Likely</p> <p>Could happen occasionally</p> <p>Major</p> <p>Serious injury</p> <p>3</p> <p>Requires Immediate Attention</p>
---	--	---	---	---

CASE STUDY 2

<p>6. PLAY OUTSIDE (& lunch) and Snoezelen</p> <p>Two person lift to floor and back to wheelchair</p>	1. Clear work area	Nil	<p>Work Area Design</p> <ul style="list-style-type: none"> Floor is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> Manual lift of person required Worker required to support most of Student's body weight Floor located below knuckle level Bend to one side required with floor Floor restricts movements Possible unnecessary transfers Situations where people can fall or collapse 	<p>Likely</p> <p>Could happen occasionally</p> <p>Major</p> <p>Serious injury</p> <p>3</p> <p>Requires Immediate Attention</p>
	2. Position chair	Nil		
	3. Lock brakes	Nil		
	4. Remove lap strap	Nil		
	5. Student's arms forward	Nil		
	6. Assist lean forward	Nil		
	7. Top and tail lift			
	8. Lower to floor	Forceful exertion and		
	9. Position Student	Working Posture		
	----- play time-----	<ul style="list-style-type: none"> Back bent forward and backward Neck bent back and twisted Hands & Wrists grip Student Some sustained squatting 		
	10. Clear work area			
	11. Position chair			
	12. Lock brakes			
	13. Assistance to sit on floor	Repetition		
	14. Top and tail lift from floor	<ul style="list-style-type: none"> People handling actions occur frequently during day (up to 20 lifts) 3 lifts in this sequence 		
	15. Carry to wheel chair			
	16. Seat Student			
	17. Reposition			
	18. Lock supports – laterals, pelvis, shoulder	Nil		
19. Release brakes	Nil			

Stage 3 – Control Measures

Control options were discussed with the team. Design controls were listed as the preferred option e.g. redesign of the way the task is performed, use of mechanical equipment. Administrative controls such as training were listed as other control options.

CASE STUDY 2

Table 4: Control Options

Task	Summary of Risk Factors	Controls
One person lift from wheelchair to potty to plinth to wheelchair	<p>Forceful exertion and Working Posture</p> <ul style="list-style-type: none"> • Back bent forward/ backward, Neck bent back and twisted, Hands & Wrists grip Student <p>Repetition</p> <ul style="list-style-type: none"> • People handling actions occur frequently during day (up to 20 lifts) <p>Work Area Design</p> <ul style="list-style-type: none"> • Furniture is not height adjustable <p>Handling Procedure</p> <ul style="list-style-type: none"> • Manual lift of person required, worker required to support most of student's body weight • Plinth located below knuckle level • Bend to one side required with plinth, plinth restricts movements • Student is slid across worker's body on removal from plinth • Possible unnecessary transfers • Situations where people can fall or collapse <p>Individual Characteristics of the Student</p> <ul style="list-style-type: none"> • Awkward to handle, unable to assist or bear weight, reduced postural control or balance • Unable to communicate or understand fully when told what is to happen • Unpredictable and likely to move suddenly • Has a wheelchair that must be moved with her <p>Individual Characteristics of the Staff</p> <ul style="list-style-type: none"> • Inadequate knowledge to perform heavy people handling tasks, make decisions about specific problems, use mechanical devices <p>Work Organisation</p> <ul style="list-style-type: none"> • People handling tasks occur frequently in one part of the shift • Handling aids are not used on all occasions when they should • Inadequate procedures and training in manual handling for staff 	<ul style="list-style-type: none"> ➤ Hoist ➤ Raise Plinth ➤ Student to come to school with own sling in place in wheelchair ➤ 2 persons to assist ➤ Remove unnecessary furniture from work space ➤ Communicate with student and each other ➤ Training in manual handling techniques, and hoist use ➤ Documented procedure

CASE STUDY 2

Table 5: Control Strategy

Control Strategy	Activity Responsibility	Status and Date	Finish Date	Review Alteration/Completion
<i>Design Controls</i>				
➤ Hoist	Available at school	Wait on training	Wk 2 Tm 3 '03	Provided 03/09/02
➤ Raise Plinth	O.T.	As hoist usable	-	-
➤ Remove unnecessary furniture from work space	Teacher	Immediate	-	-
➤ Low Potty chair	School (share equip.)	Term 3 2003	ASAP	Plan change – to hoist to current chair – no standing transfer
<i>Administrative Controls</i>				
➤ Student to come to school with own sling in place	Teacher	Wk 9 Tm 2 '03	-	School provide 28/8/03
➤ 2 persons to assist	School (staffing)	Immediate	-	Ongoing
➤ Communicate with Student and each other	All	Immediate	-	Ongoing
➤ Training in manual handling techniques, and hoist use	O.T.	Term 3 2003	Wk 2 Tm 3 '03	Provided 28/08/03 to class teacher
➤ Photograph and document procedure	P.T.	Term 3 2003	Wk 4 Tm 3 '03	Completed 28/08/03
➤ Cont. Assessment of Standing Frame use	Team	Term 3 2003	Wk 5 Tm 3 '03	-
Interim Measures				
<i>Design Controls</i>				
➤ Team lifting	Teacher and T/ Aide	Immediate	-	In emergency or lack of hoist
<i>Administrative Controls</i>				
➤ 2 persons to assist	School (staffing roster)	Immediate	-	

CASE STUDY 2

Stage 4: Review Plan

The group made a plan to review the effectiveness of the implemented strategies.

- *Progress should be reviewed by the individual responsible on the finish dates in Control Strategy*
- *The education team should be review the new control measures/ Manual Handling Procedure within the IEP process*

Uses of the risk assessment process

Along with the benefits of planning and implementing effective control strategies, documenting complex manual handling cases can assist in advocating for resources and justification for purchase of resources. For example; documentation can assist with organising requests for additional service or funding submissions.

Some of the difficulties that staff expressed with the process were;

- Time to do paperwork
- Number of tasks and determining priorities
- Competencies for training
- Staff's perception of the importance of the process

CASE STUDY 2

Table 6: Activity List

Time	Activity	Details
Morning Session	Toileting	Hoist from wheelchair to potty to plinth
	Morning Session	Wheel Hoist to Adjusta Chair
	Group Program	Hoist to wheelchair
	Standing	Hoist to supine stander
Morning Tea	Toileting	Hoist to potty chair, to plinth, to wheelchair
----	----	
Middle Session	Play Outside	Hoist to floor and back to wheelchair
	M/Tu/W is Conductive Education Prog.	Wheel Hoist to CE room Hoist onto plinth Hoist back to wheelchair
	Wed/Fri	In Wheelchair
Lunch	Toileting	Hoist to potty chair, to plinth, to wheelchair
----	----	
Afternoon Session	Play Outside	Hoist to floor and back to wheelchair
	M/W/Th/F is Standing	Hoist to supine stander Hoist back to wheelchair
	Tues is Snoezelen	
	Home Time	Hoist to floor and back to wheelchair