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Manual Handling		
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SAFE WORK PROCEDURE:

MANUAL HANDLING

Overview:

This procedure applies to all employees, or contractors under the authority of Mount Royal University.

Manual handling is defined as the moving of loads including: *lifting, lowering pushing, pulling carrying, holding, dragging and supporting of objects.*

The injuries that can be caused by such tasks are known as musculoskeletal injuries (MSI's), or overexertion injuries. These injuries are soft tissue injuries involving the bones, joints, ligaments, tendons, muscles, and other soft tissues. These injuries can be caused by overuse, awkward body positions, forceful exertions, or repetitive tasks.

Musculoskeletal injuries are the leading cause of compensable lost time claims in Alberta.

Manual Handling Hazards and Associated Risks:

Overuse injuries – Overuse injuries occur when tissues are used too much and the body is unable to repair the damage. Repeated small injuries to tissues add up over time. Some can take a prolonged amount of time to appear.

Awkward body position – Awkward body positions are often the result of the location and orientation of the object being worked on, poor workstation design, product design, tool design, or poor work habits.

Forceful Exertion – Forceful exertions can overload muscles, tendons or ligaments. Forceful exertions typically occur when lifting, pushing, pulling and reaching.

Repetition – Repetitive movements eventually wear the body down. Without sufficient time to recover between repetitions, muscles become tired and may cramp. Additional muscles in the affected area try to compensate and also become tired and cramped and

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become injured. How quickly this happens depends on how often a repetitive motion is performed, how quickly it is performed, and for how long the repetitive work continues.

Procedure:

Risk Assessment of Task(s) and Manual Handling

“What is the maximum weight that I should be lifting at work?”

The first response to this question is that there is *no safe weight limit for a load that ensures safety or prevention of injury.*

The second response is that *it is difficult, and often not possible, to provide a maximum weight.*

There are many factors that influence the weight that can be handled safely. These include:

- a. The starting height of the lift.
- b. The finishing height of the lift, i.e., *together with above – lifting distance.*
- c. The number of times the lift is performed in a period of time. *Repetition.*
- d. The length of time that lifting takes place. *Shift length or duration of activity.*
- e. The extent to which twisting of the body takes place.
- f. Whether the lift is performed with one hand or two hands.
- g. The distance that the object is away from the body.
- h. The size, shape and texture of the object.
- i. The presence of appropriately placed hand holds on the object.
- j. Whether or not the lift must be performed in space that restricts or prevents worker movement.
- k. The movement of an object with a changing centre of gravity, i.e., *fluid moving freely within a container.*
- l. An object that is alive such as a person or animal

SAFE LIFTING TECHNIQUE:

There is no single correct way to lift.

The following process provides important points which are relevant to a two-handed symmetrical lift (i.e., a lift using both hands in front of and close to the body).

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Complete a Field Level Hazard Assessment for any manual handling that includes factors such as heavy loads, awkward positioning, or repetitive tasks.

Wherever possible, try to use the Hierarchy of Controls to eliminate or administratively control the hazards associated with these tasks.

Examples:

- a. For heavy lifts, use a lifting aid such a hoist or use team lifting.
- b. Use a dolly or cart to transport items over long distances.
- c. Eliminate the repetitiveness of tasks using work substitution or rotate employees through repetitive tasks.
- d. Use substitution if loads are heavy and or awkward due to packaging, speak to suppliers to see if the loads can be broken down into smaller, lighter packages to facilitate easier movement.

1. PLAN THE LIFT/HANDLING ACTIVITY.

- Identify the drop off point.
- Ensure the route is free of obstructions.
- Consider the need for assistance; or rest breaks etc.

2. KEEP THE LOAD CLOSE TO THE WAIST.

- Keep the load close to the waist, for as long as possible while lifting.
- Keep the heaviest side of the load next to the body.

3. ADOPT A STABLE POSITION.

- Feet should be apart with one leg slightly forward to maintain balance (alongside the load if it is on the ground).
- Wearing over-tight clothing or unsuitable footwear may make this difficult. Wear appropriate PPE for the task.

4. ENSURE A GOOD HOLD ON THE LOAD.

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- Hug the load as close as possible to the body. This may be better than gripping it tightly only with the hands.

5. MODERATE FLEXION.

- Slight bending of the back, hips and knees at the start of the lift is preferable to either fully flexing the back (stooping) or fully flexing the hips and knees (full/deep squatting).

6. DON'T FLEX THE BACK ANY FURTHER WHILE LIFTING.

- This can happen if the legs begin to straighten before starting to raise the load.

7. AVOID TWISTING THE BACK OR LEANING SIDEWAYS, ESPECIALLY WHILE THE BACK IS BENT.

- Keep shoulders levels and facing in the same direction as the hips.
- Turning by moving the feet is better than twisting and lifting at the same time.

8. KEEP THE HEAD UP WHEN HANDLING.

- Look ahead, not down at the load, once it has been held securely.

9. MOVE SMOOTHLY.

- Do not jerk or snatch the load as this can make it harder to keep control and can increase the risk of injury.

10. DON'T LIFT OR HANDLE MORE THAN CAN BE EASILY MANAGED.

- There is a difference between what people can lift and what they can safely lift. If in doubt, seek advice or get help. Use a team lift if it will mitigate the associated hazards of a load.

11. PUT DOWN AND THEN ADJUST

- If precise positioning of the load is necessary, put it down first, then slide it into the desired position.

Whenever possible, use a dolly or a cart.

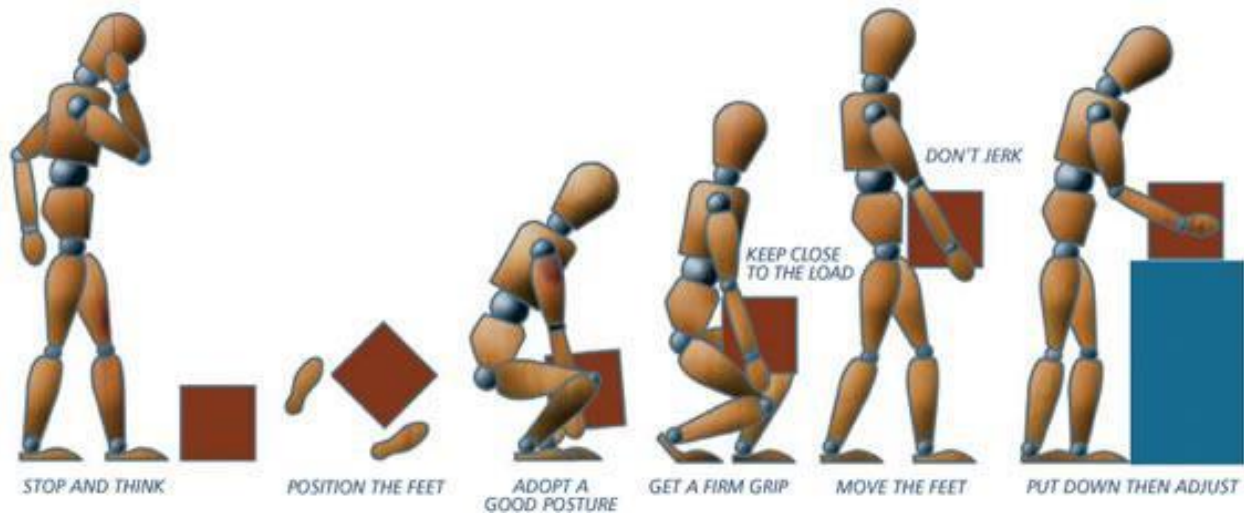
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Using a dolly or cart is likely to increase the efficiency of a manual handling operation, as well as reduce the exertion level needed to move the load.

Staff should push loads on a dolly or cart, rather than pulling the load. Pulling leads to more injuries than pushing. Pushing also allows for workers to move the load by using their body weight to apply force to get it to move.

Appendix:

Manual Handling: The Ergonomic Process



MANUAL HANDLING QUALITATIVE RISK ASSESSMENT:

TASK	Problems to look for when making an assessment	Ways of reducing the risk of injury
	<p><u>Does the task involve:</u></p> <ul style="list-style-type: none"> ➤ Holding loads away from the body? ➤ Twisting, stooping or reaching upwards? ➤ Large vertical movement? ➤ Long carrying distances? ➤ Strenuous pushing or pulling? ➤ Repetitive handling? ➤ Insufficient rest or recovery time? ➤ A work rate imposed by a process? 	<p><u>Can you:</u></p> <ul style="list-style-type: none"> ➤ Use a lifting aid? ➤ Improve workplace layout to improve efficiency? ➤ Reduce the amount of twisting and stooping? ➤ Avoid lifting from floor level or above shoulder height, especially heavy loads? ➤ Reduce carrying distances? ➤ Avoid repetitive handling? ➤ Vary the work, allowing one set of muscles to rest while another is used? ➤ Push rather than pull?

INDIVIDUAL	Problems to look for when making an assessment	Ways of reducing the risk of injury
	<p><u>Does the Job:</u></p> <ul style="list-style-type: none"> ➤ Require unusual capability e.g. above average strength or agility? ➤ Endanger those with a health problem or learning/physical disability? ➤ Endanger vulnerable sectors such as pregnant women or young workers. ➤ Call for special information or training? 	<p><u>Can you:</u></p> <ul style="list-style-type: none"> ➤ Pay particular attention to those who have a physical weakness? ➤ Take extra care of vulnerable sectors. ➤ Give your employees more information, e.g. about the range of tasks they are likely to face? ➤ Provide more training?

LOAD	Problems to look for when making an assessment	Ways of reducing the risk of injury
	<p><u>Is the Load:</u></p> <ul style="list-style-type: none"> ➤ Heavy, bulky or awkward to maneuver? ➤ Difficult to grasp? ➤ Unstable or likely to move unpredictably? ➤ Harmful e.g. sharp or hot? ➤ Awkwardly stacked? ➤ Too large for the handler to see over? 	<p><u>Can you make the Load:</u></p> <ul style="list-style-type: none"> ➤ Lighter or less bulky? ➤ Easier to grasp? ➤ More stable? ➤ Less damaging to hold? <p>If the load comes in from a supplier or vendor, can the supplier or vendor assist in providing handles or smaller packaging that is more manageable.</p>

ORANIZATION	Problems to look for when making an assessment	Ways of reducing the risk of injury
	<ul style="list-style-type: none"> ➤ Is the work repetitive or boring? ➤ Is work machine or system paced? ➤ Do workers feel the demands of the work are excessive? ➤ Have workers little control of the work and working methods? ➤ Is there poor communication between Managers and Employees? 	<p><u>Can you:</u></p> <ul style="list-style-type: none"> ➤ Change tasks to reduce the monotony? ➤ Make more use of workers' skills? ➤ Make workloads and deadlines more achievable? ➤ Encourage good communication and teamwork? ➤ Involve workers in decisions? ➤ Provide better training and information?

PPE	Problems to look for when making an assessment	Ways of reducing the risk of injury
	<ul style="list-style-type: none"> ➤ Are there restrictions on movements or posture from clothes or personal protective equipment (PPE)? 	<p>Can you:</p> <ul style="list-style-type: none"> ➤ Provide protective clothing or PPE that is less restrictive? ➤ Ensure your employees' clothing and footwear is suitable for their work?

References:

Work Safe Alberta – Lifting and Handling Loads Part 1, 2 and 3.

<http://work.alberta.ca/SearchAARC/695.html>

NEBOSH IGC2 Volume 1 – Element 3 Musculoskeletal Hazards and Risk Control

Revision History		
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January 17th 2018	1.0	Creation of Safe Work Procedure