Working Safely
While
Sitting/Standing/Moving Objects
Slide 2

Working Safe – Sitting/Standing/Moving Objects

Housekeeping Details
- Exits
- Length of course
- Evaluation
- Breaks

Slide 3

Overview

Preventing Musculoskeletal Injuries
- Section I – Introduction
- Section II – How the Body Works
- Section III – Using the Body Effectively
- Section IV – Assessing the Task
- Section V – Performing the Task
- Section VI – Evaluate the Process

Slide 4

Section I - Introduction

Sitting, standing and moving objects is a normal part of every day at home and at work. Injury at home and at work is preventable however everyone must participate in order to see a change in the injury numbers.
Section I - Introduction

Occupational Health and Safety Act, 1993
Occupational Health and Safety Regulations, 1996

Duties:
- Employers – must provide a safe and healthy workplace
- Supervisors – ensure safety compliance
- Workers – follows safe work practices, takes care of himself/herself and others

Slide 5

Section I - Introduction

a) Occupational Health and Safety Regulations, 1996

Section 78

An employer must:
- Provide equipment
- Adapt heavy or awkward loads
- Does not allow workers to perform moving of loads that could be injurious
- Ensure appropriate training

Slide 6

b) Occupational Health and Safety Regulations, 1996

Section 81

An employer is responsible to:
- Regularly review activities
- Inform those affected
- Provide protection
- Provide instruction to those at risk
- Where symptoms are identified:
  - Advise consultation with healthcare professional
  - Promptly review activities.

Slide 7
Slide 8

Statistics

The Saskatchewan Picture

- Among the worst in Canada
  - 158,000 unintentional injuries per year
  - An injury every 3.5 minutes
  - 329 deaths a year
  - Slightly less than 1 per day
- Workplace Injury Category
  - 4.81 time loss claims for each 100 people covered by Workers Compensation

Safe Saskatchewan Statistics*

Slide 9

The Saskatchewan Picture

Injuries occurring outside the workplace is greater than twice the rate for injuries that occur in the workplace.

Slide 10

U of R Injury Picture

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<th>2002</th>
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<td>1.26</td>
<td>2.33</td>
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<tr>
<td>3 year total</td>
<td>1.57</td>
<td>1.58</td>
<td>1.64</td>
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<tr>
<td>1.50</td>
<td>2.23</td>
<td>2.33</td>
<td>2.23</td>
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*Safe Saskatchewan Statistics
Section II – Understanding How the Body Works

This section will:
1. Describe the structure and function of various body parts briefly
2. Describe methods of using the body effectively

1. Structure and Function:

Our neck, back, shoulders and other related parts of the body are complicated structures that must be understood in order to reduce the risk of injury. These structures have particular functions that they are responsible for and when they are used beyond their normal functions they are put at increased risk of injury.
The Spine
- Three natural curves
- Shape of a gentle S
- Houses and protects the spinal cord
- Connects structures
- Provides attachment points for the ribs and muscles

Spine
The spine is divided into segments: neck, trunk, lower back and tailbone. The spine is made up of 33 bones known as vertebrae. The spine has natural curves, the neck portion curves forward, the trunk curves outward and the lower back curves forward. These curves form the shape of a gentle S.

The spine houses and protects the spinal cord, keeps the trunk in an upright position. The spine connects to the skull and the lower limbs. The spine also provides attachments points for the ribs and the muscles that support the back.

Vertebrae
These are bony structures that are stacked one on top of the other; they are connected by the discs. Some sections of vertebra are movable, others are not.

This structures main function is to protect the spinal cord; muscles and ligaments are attached to the vertebrae.
The Disc
- Found between the vertebrae in the neck, trunk and lower back
- Jelly like interior with a fibrous outer covering
  - Think of a jelly donut
- Shock absorbers

Disc
Connecting these vertebrae are discs. The disc is a cushion like pad composed of a jelly like substance on the inside with a strong fibrous outer covering. These structures act as shock absorbers and allow the spine to flex and extend and somewhat accommodate bending from side to side.
Ligaments
Ligaments are tough elastic fibers that connect bone to bone. Like any tall tower, the vertebral column cannot stay upright without supports. The ligaments are those supports working together with the trunk muscles.

Muscles - Trunk
The muscles that connect to and support the spine are found in the back itself and the abdomen. These muscles assist in keeping the back aligned and balanced (keeping the trunk upright). The abdominal muscles stabilize the pelvic area and in concert with the back muscles assist in preventing over extension of the spine. It has been noted that well toned muscles provide more effective protection.

Nerves
Nerves transfer information. The spinal nerves supply the communication link between the brain, spinal cord and the neck, trunk and extremities allowing these body structures to perform their functions.
Shoulder

A complex working of muscles, ligaments and tendons assist in the function of the shoulder. The shoulder joint is the most freely moving joint of the body therefore stability has been minimized.

Leg Muscles

Thigh muscles are built to lift and move loads. Thigh muscles are large; when the body is used correctly these muscles are engaged to assist in lifting our body and moving the load.

2. Taking Care of Your Body

The ability of the body to function effectively is influenced by a number of factors; some of those factors involve positive lifestyle choices including choices related to nutrition, physical activity, sleep patterns and stress.
a) Nutrition including water intake
A healthy diet supplies the nutrients that the body requires to function safely and effectively. Canada's Food Guide provides a guide to making good food choices. Balancing the intake of healthy calories with the amount used will assist in maintaining a healthy body weight.
Appropriate intake of fluids is essential in maintaining a safe body as well, ensuring adequate water intake is critical.

b) Physical Activity
A consistent pattern of physical activity assists in maintaining good health. It improves heart and lung fitness, tones and strengthens muscles, keeps joints mobile, strengthens bones and improves posture.
Regular physical activity also assists in maintenance of a healthy weight. All these are important in preventing injury and to recovering from an injury.
Accessing information is available on www.paguide.com or through U of R Dr. Paul Schwann Health and Research Centre.

Incorporating a stretching routine into your daily activities will assist in maintaining strength and flexibility.
c) Sleep Pattern
The number of hours that each person requires to feel rested varies. Routines prior to sleep are considered helpful in getting to sleep easier. Ensuring a quiet uninterrupted time for sleep is critical. Monitoring intake of caffeine should be considered. Sleep is considered restorative, it allows your body and mind to heal and prepare for the next day or for a night worker for the next night.

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d) Stress
Stress is the body’s response to any demand in the environment, positive or negative. Certain stress is healthy however there is stress that causes problems over the short or long term. Recognizing stress early and then seeking to manage it will assist in reducing the risk of this escalating to a high level.

Section III – Using the Body Effectively

Good Posture
- Sitting
- Standing

Good Body Mechanics
- While moving objects
Good posture is essential in all activities whether sitting, standing or lying. Good posture is accomplished when we learn to keep our bodies in a neutral position, one that is not aggravating or placing body structures at risk of injury.

Good body mechanics is how we use our body during various movements. It is important that we learn to use our bodies safely and effectively in all activities at work and at home.

Good sitting posture is achieved when our bodies assume a natural or neutral position in the chair.

- Ears are in line with the shoulder, shoulders are in line with the hips
- Chin is not tilted up or down
- Arms are resting with shoulder relaxed
- Knees are level or slightly lower than hips
- There is 2 fingers space between chair and back of knees
- Feet are flat on the floor
Good Body Posture

In Standing position:
1. Feet are shoulder width apart
2. Knees are soft or slightly bent
3. Ears are in line with the shoulders, shoulders are in line with the hips
4. Chin is neutral, not tilted up or down
5. Arms hang freely at sides with shoulders relaxed

Good standing posture is achieved when our bodies assume a natural or neutral position when standing.
- Feet are shoulder width apart
- Knees are soft or very slightly bent
- Ears are in line with the shoulders, shoulders are in line with the hips
- Chin is not tilted up or down
- Arms hang freely at sides

Good Body Mechanics

When moving objects:
1. Feet are shoulder width apart or in a stride stance (one foot slightly ahead of the other)
2. Knees are soft or slightly bent
3. Ears are in line with shoulders, shoulders in line with hips
4. Chin is neutral, not tilted up or down
5. Elbows are slightly bent and close to the body
6. Eyes, shoulders, hips and feet are facing the same direction throughout the move
7. Body momentum is used to move the object

Good body mechanics when moving objects.
- Feet are shoulder width apart or in a stride stance with one foot in front of the other but still about shoulder width apart.
- Knees are soft or slightly bent
- Ears are in line with the shoulders, shoulders are in line with the hips
- Chin is not tilted up or down
- Elbows are slightly bent and close to your body
- Eyes, shoulders, hips and feet are facing the same direction
- Body momentum is used to move the object

The Big Four’ (‘The Four Gets’)
- Get sturdy
- Get body in line and keep it in line
- Get load close
- Get body into the move
### Good Body Mechanics

1. Feet are shoulder width apart or in a stride stance (one foot slightly ahead of the other).
2. Knees are soft or slightly bent.
3. Ears are in line with shoulders, shoulders are in line with the hips.
4. Chin is not titled up or down.
5. Elbows are slightly bent and close to the body.
6. Eyes, shoulders, hips and feet are facing the same direction.
7. Body momentum is used to move the object.

### ‘The Big Four’

1. Get sturdy
2. Get body in line and keep it in line
3. Get load close
4. Get body into the move

### 7 Steps

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
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<td>1</td>
<td>Feet are shoulder width apart or in a stride stance with one foot in front of the other but still about shoulder width apart.</td>
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<tr>
<td>2</td>
<td>Knees are soft or slightly bent.</td>
</tr>
<tr>
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</tr>
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<tr>
<td>7</td>
<td>Body momentum is used to move the object.</td>
</tr>
</tbody>
</table>
Section IV – Assessment of the Task

Assess all concerns considering your ability to maintain good body mechanics while completing the move.

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Assessing the task allows you to resolve risks prior to starting the task. Always consider:

1. Is this task really necessary?
2. Is there equipment that can assist with this task?
   - Is the equipment available?
   - Have you been trained in appropriate use of the equipment?
   - Has the equipment been maintained as per manufacturers’ instructions?

All tasks must be assessed prior to being performed in order to determine if there are risks that must be resolved prior to completing the task.

Always consider:

- Is this moving task necessary?
- Is there equipment that will assist in performing this task?
  - Is the equipment available?
  - Is training required prior to using the equipment?
  - Has the equipment been maintained as per manufacturers’ instructions?

Consider if the environment accommodates the task.

- Is the area appropriate for the move?
  - Is the space adequate to perform the move safely?
  - Is the distance of the move reasonable – the heavier the object the less distance it can be safely moved – does the move allow work to be accomplished within the comfort zone (shoulders to hips)
  - Is the lighting adequate to perform the move safely?
  - Is the pathway clear?
  - Is the flooring suitable to the safety of the move?

_______________________________________________________________________________________
_______________________________________________________________________________________
_______________________________________________________________________________________
_______________________________________________________________________________________
_______________________________________________________________________________________
Assess the object to be moved.

- Do any of the following characteristics of the object have the potential to interfere in the safety of the moving task?
  - Size of the object
  - Weight of the object
  - Shape of the object
  - Surface or texture of the object
    - Is the surface rough, jagged, slippery, hot or cold?
  - Contents of the object
    - Are the contents hazardous?
    - Might the contents shift during the move?
  - Balance of the object
    - Is the object heavier on one side than another?

If the assessment of the task determines areas of risk, problem solve to minimize or possibly eliminate the risk, if you are unable to do this independently asks for assistance prior to completing the task. The person performing the work is encouraged to resolve the concerns if possible as they are generally the most knowledgeable about the task; however often someone unfamiliar with the task can make suggestions to improve a task. Always inform your supervisor if you have concerns with the safety of the task at hand.
Determine which of the following activities you do in your work and decide if there are risks associated with these activities, if so problem solve ideas to manage the risks.

1. Lift ________________________________________________________________

2. Carry ______________________________________________________________

3. Bend ________________________________________________________________

4. Reach ______________________________________________________________

5. Push/pull ____________________________________________________________

6. Twist ________________________________________________________________

7. Repetitive motion ______________________________________________________

8. Prolonged sitting ______________________________________________________

9. Prolonged standing ____________________________________________________
**Section V – Performing the Task**

*Remember once you are performing the move it is often too late to change the plan.*

**Step 1 – Get equipment if required based on assessment**
- Ensure you have been trained to operate equipment
- Ensure it is in good working order

**Step 2 – Ask someone to assist if required based on assessment**
- Be certain all assistants have had training to lift safely
- Choose a leader
- All participants in the move must work together and communicate with each other
- Consider height differences
- Ensure all participants involved in the move are aware of the planned move
- Ensure all participants are ready prior to starting the move

**Step 3 – During the task**
- Ensure you have and can maintain a safe grip
- Always concentrate on the task at hand
- Maintain good body mechanics through out the entire move
- Move in stages as needed
- Communicate through out the move
- Never try to save a falling object

**Step 4 – Following the task**
- Determine if there were areas of the moving task that could have been accomplished in a safer method

Document method of move to assist others doing the same procedure.
Performing the Task

Always:
- Ensure task is required
- Reduce the size of the load
- Reduce the frequency of the tasks
- Use equipment if available
- Push rather than pull
- Slide rather than lift – often adding a device to reduce friction will make the move easier

Section VI – Evaluating the Process

Consider all areas contributing to the safe move and determine changes that could be incorporated.

- Do you have adequate knowledge of the Occupational Health and Safety laws?
- Do you understand how your body structures work?
- Do you feel confident that you are taking care of you?
  - Eating healthy
  - Physically active
  - Sleeping reasonable hours
  - Recognizing and dealing with negative stress
- Are you using your body effectively when:
  - Sitting
  - Standing
  - Moving objects