

Soteria Strains

Safe Patient Handling and Mobility Program Guide

Section 3 - Controls

Section 3.1 – Selecting Controls

V1.0 edited July 20, 2015



soteria

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A provincial strategy for healthcare workplace musculoskeletal injury prevention.

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Section 3.1 – Selecting Controls

Introduction

This section describes the process for selecting appropriate controls to mitigate the risks associated with patient handling and mobility tasks. The first part of the section describes the general categories of controls presented in a hierarchy of effectiveness (the hierarchy of controls). This is followed by general principles for selecting controls for the safe patient handling and mobility program. The appendix contains the current best practice recommendations for controlling the risk of common patient handling and mobility tasks and will be updated as practice changes.

Hierarchy of Controls

Controls to mitigate risk can be categorized by their nature. The categories, in order of effectiveness from most effective to least, are; elimination, substitution, engineering, administrative and personal protective equipment (see figure 3.1.1)

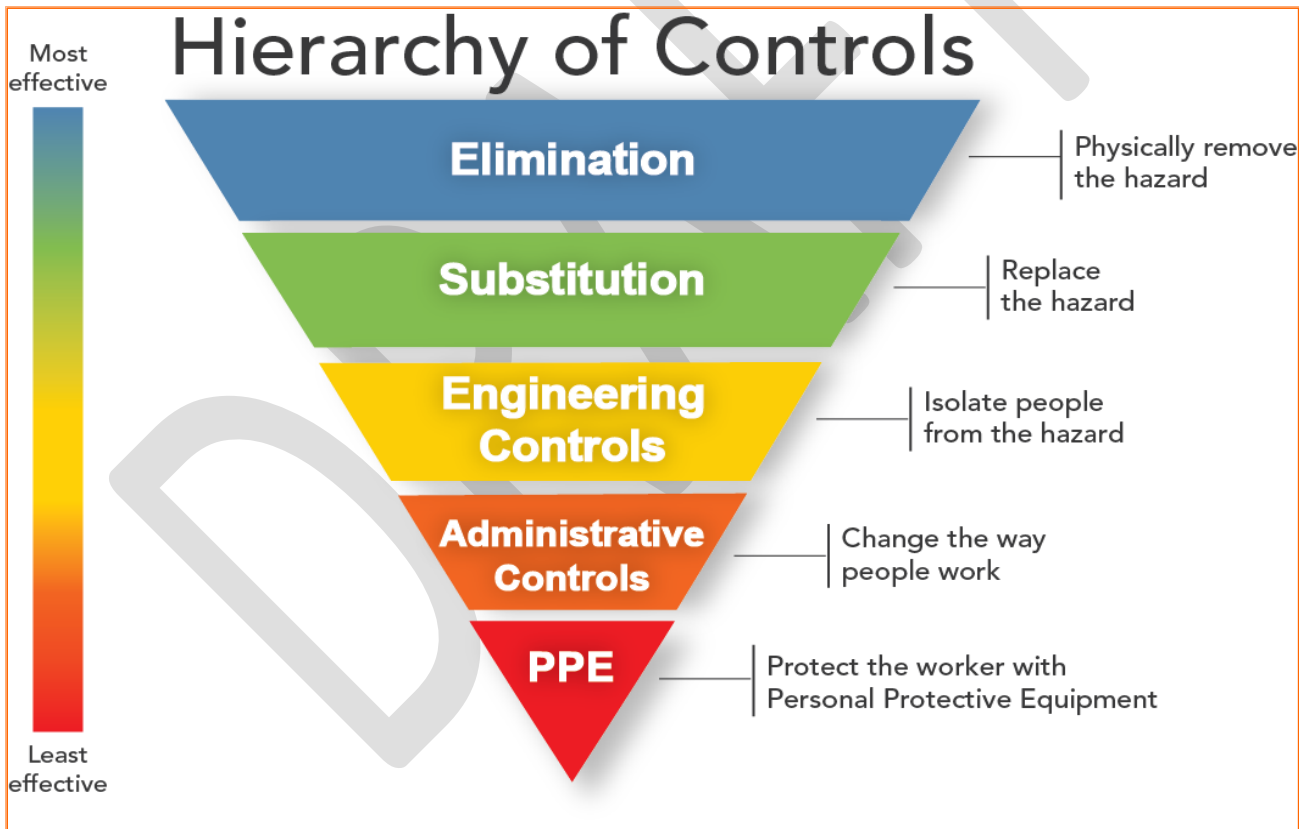


Figure 3.1.1 - Hierarchy of controls (CDC/NIOSH)

Elimination:

Eliminating the hazard is the most effective control method. When looking at patient handling and mobility activities, elimination means critically examining specific tasks and their effectiveness and importance in patient care. Often these tasks are essential to good care and cannot be eliminated.

Although the tasks may be essential, the associated risk of injury is avoidable through the use of other methods, such as engineering and administrative controls.

Substitution:

Where the hazard cannot be eliminated, consider alternatives to the substances, processes, machines or equipment being used. Substitution may reduce the risk of incident to an acceptable level. An example of substitution in patient handling is using a portable x-ray machine rather than transferring a dependant patient to the diagnostic imaging department. This alternate process would reduce the number of transfers required (bed to stretcher, stretcher to x-ray table and back) to image the patient.

Engineering controls:

If it is not possible to eliminate the hazard, the next best option is to engineer a control that will reduce the risks for workers to as low as reasonably achievable. Engineering controls involve the design of the workplace and its related processes and can include the introduction of equipment and tools. There are two types of engineering controls: those that must be used to complete a task and those that can be used to complete a task. In the former there is no choice for the worker; once installed the control mitigates risk and the task cannot be completed without using the control. An example is a temperature-controlled faucet in a patient room; there is no alternative when using hot water. In the latter type of engineering control a choice must be made by the worker to use the control when completing the task. An example of this is a mechanical lift installed on the ceiling above a patient's bed. The mechanical lift is engineered to lift and move patients greatly reducing the risk of injury to health care workers because it reduces the need to exert significant force to lift a patient. Of course, even though an engineering control (the mechanical lift) has been provided, the worker must opt to use it to mitigate the risk; the option of moving the patient manually still exists.

When controls must be chosen it is important to ensure that administrative controls are in place to encourage consistent selection of the safer choice(s). Workers must be trained in how to use the control, why it is important and the potential consequences of not using the control. Training, procedures, policies and accountability frameworks are considered administrative controls and are described in the following section.

Administrative Controls:

Administrative controls do not eliminate or change a hazard but they can, if well thought out, reduce the risk to workers who are exposed to that hazard. As the name suggests administrative controls involve creating and implementing administrative policies or procedures that, if followed, help ensure workers perform a task in a manner that reduces the risk. Administrative controls might include a change to work methods or workflow and they always have a training element associated with them.

Some examples of administrative controls are: safe work practices, job-rotation programs, work-rest schedules, and staff training. None of these eliminate the hazard, but if well-designed and followed they may help reduce the risk to workers.

To be effective administrative controls need to be implemented and managed. Management must ensure staff is trained and policies/work procedures are being followed. Management and staff both need to recognize that these controls do not eliminate hazards and can reduce risk effectively only if they are used and followed correctly. For instance, having a policy that requires two staff members to perform a specific type of patient transfer task may be sound however, it is not likely to be successful if it is not possible for one staff member to get assistance from another when help is needed.

Personal Protective Equipment (PPE):

Personal protective equipment (PPE) are items worn by workers to help reduce exposure to a hazard and thereby reduce the risk to the worker. Examples of PPE include face masks or respirators, eye protection, gloves, gowns, safety footwear, ear plugs/muffs, hard hats, high-visibility vests, etc.

PPE on it's own is the least effective method of protection and must always be used in combination with other control methods. Training on the selection, use and limitations of PPE is critical in ensuring the protection of a worker.

Note: There is no evidence that any type of PPE will reduce the risk of injury to health care workers who are required to manually handle or mobilize patients.

Principles of Selecting Controls for Safe Patient Handling and Mobility.

Controls are selected and implemented based upon the results of a hazard identification and risk assessment process. The unit assessment described in section 2.2 of the Soteria Strains Safe Patient Handling and Mobility Program Guide and related training material must be used to inform selection of controls.

In health care there is significant variability in activities performed and associated risks on different units. It is therefore critical for each unit to be assessed and appropriate controls provided to them. Frontline health care workers must be involved in the assessment and selection process to ensure proper identification of risks and controls.

When considering the hierarchy of controls, elimination and substitution are often not an option in the context of patient handling and mobility however, it is still useful to discuss the potential to eliminate or substitute any tasks considered high risk.

Manual patient handling is inherently unsafe and educating healthcare workers on manual lifting/handling techniques (i.e. body mechanics training/tips) will not make it any safer. The use of engineering controls such as mechanical lifts and their associated administrative controls including: training, changes to work practice, policy, patient assessments, etc. has been shown to be effective.

Controls must be selected based on a number of factors (gathered as part of the assessment process described in section 2.2) including but not limited to:

- Characteristics of the unit
 - Type of care provided (e.g. ICU vs Med-Surg vs orthopedic)
 - Typical patient profiles/care needs
 - Unit design/layout (including issues with age/ potential need for retrofitting)
- Injury data
 - type of injuries
 - cause of injuries
- patient handling and mobility tasks typically completed and their impact
- successful use of controls in units with similar profiles
- impact on change in practice (e.g. training must always accompany engineering controls)
- Infection control issues (e.g. using a floor lift is not recommended patients on isolation measures)
- Controls already in place

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Appendix 3.1.1 - Common High Risk Patient Handling Tasks and their Recommended Controls

Task	Recommended controls
Repositioning Patient in Bed (to head of bed, side to side, roll)	Ceiling Lifts and Accessories <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications) Friction reducing devices (“Breeze Sheets”) SAGE turn and repositioning system
Repositioning Patient in Chair	Ceiling Lifts and Accessories <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications)
Transfer (Chair<-->Chair) (wheelchair/toilet/commode)	Ceiling Lifts and Accessories <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications) • Hygiene slings • universal slings • hammock slings For patients able to weight bear: Mobile Sit-Stand Lift
Transfers (Bed<-->Chair) (commode/wheelchair)	Ceiling Lifts and Accessories <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications) • Hygiene slings • universal slings • hammock slings For patients able to weight bear: Mobile Sit-Stand Lift
Transfers (Bathtub<-->Chair)	Ceiling Lifts and Accessories <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications) • Hygiene slings • universal slings • hammock slings • turning slings
Transfers, Lateral (Bed<-->Stretcher)	Air-Assisted lateral transfer device (ie Air-Pal)

Lift patient from floor	<p>Ceiling Lifts and Accessories</p> <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications) • Hygiene slings • universal slings • hammock slings • turning slings
Care activities with patient in bed (Bath, change absorbent pad, change bedding, dress/undress)	<p>Ceiling Lifts and Accessories</p> <ul style="list-style-type: none"> • Repositioning slings (designed to be left under patients without increasing risk of skin complications) • Hygiene slings • universal slings • hammock slings • limb slings • turning slings <p>SAGE turn and repositioning system</p>
Weighing patient	Beds with integrated scales
Applying anti-embolism stockings	TBD
Transporting patients on/off unit	Ensure proper maintenance of beds and stretchers (especially wheels and castors) motorized stretchers/beds
Undressing/dressing a patient	TBD
Feeding bed-ridden patient	Adjusting bed heights to minimize awkward posture (such as bending and twisting