

Soteria Strains

Safe Patient Handling and Mobility Program Guide

Section 4 – Special Considerations

Section 4.1 - Emergency Situations

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soteria

STRAINS

A provincial strategy for healthcare workplace musculoskeletal injury prevention.

Table of Contents

Section 4.1 – Emergency Situations.....	3
Introduction	3
Emergencies Affecting One Individual (i.e., Medical)	3
Emergencies Affecting Multiple Individuals, Property and/or Environment.....	4
Appendix 4.1.1 - Patient Handling and Mobility Techniques for Emergency Evacuations	6
Evacuation of Non-Ambulatory Patients – Single Rescuer	6
Evacuation of Non-Ambulatory Patients – Two Rescuers	7
Evacuation of Non-Ambulatory Patients – More than Two Rescuers.....	8

Section 4 – Special Considerations sub-sections will be expanded and/or modified as required based on input from experience and observations during program implementation.

Section 4.1 – Emergency Situations

Introduction

An emergency is a situation that poses an *immediate risk* to health, life, property, or environment. This section contains information on safe patient handling and mobilization during emergencies. Emergencies in the health care setting range from affecting a single person, including medical emergencies such as strokes, cardiac arrest and trauma, to incidents that affect larger numbers of people, property and/or environment, such as fire, exposure to hazardous materials, chemical or gas leaks or natural disasters.

The approach to handling and mobilizing patients during non-emergency situations may differ from the approach used during emergencies. Each situation is unique, so the information here will assist health care workers to identify when and how to change the safe patient handling and mobility plan due to an emergency.

Organizations should ensure that safe patient handling and mobility practices, processes, and challenges are considered when preparing and reviewing emergency response plans. Units should consider how to assess and deal with these situations so that health care workers are prepared to respond appropriately and safely. Complete information on emergency preparedness and planning is beyond the scope of this document and individuals are encouraged to refer to their organization's applicable policies and procedures for more information.

Emergencies Affecting One Individual (i.e., Medical)

It is often helpful, as part of assessing a medical emergency, to answer the question; does the patient need to be moved immediately to save or reduce risk to their life/health. In many cases, such as after a fall, the safer choice for both the patient and health care worker may be to provide care and ensure comfort of the patient where they are rather than attempting to lift them off the floor without an appropriate lift. This may also be true in situations where a patient has collapsed due to a medical condition such as cardiac arrest or stroke. Often the urgency of these types of situations may distract rescuers from using safe handling techniques or waiting for more help/required equipment.

When a patient's health or life is in immediate risk, and moving them is necessary to provide care, taking extra time to acquire safe patient handling equipment may not be possible without increasing the risk to the patients' life/health. Regardless of the specific situation, health care workers are encouraged to do what is necessary and remember these guidelines for reducing the risk of strains and sprains:

- Be aware of and respect personal limitations.
- Get help when possible. Co-workers may be helpful if available. If medically appropriate, patients should be asked to assist with their transfer or repositioning movement as much as they can. Communication between health care workers as well as with the patient is always important when coordinating any assistance.
- Keep a wide base of support by facing the patient with feet shoulder width apart or wider.
- Use the largest muscles possible for the task. For example, when lifting, use the leg muscles by bending the hips and knees instead of the back.
- Reduce torque and pressure on the back by keeping as close to the patient as possible.
- Maintain the spine in an optimal position. This is often described as neutral posture, or maintaining the three normal curves of the spine. An effective way to do this is to think about keeping your back "straight" or being tall through your back.
- Use the core abdominal muscles to support the back. This is done by tightening the stomach muscles. This tightening should not be a maximum effort as a 10-25% effort is adequate to support the spinal position.
- Do not twist the spine especially when adding a load or spending a long time in a position. Reduce twisting by keeping "the nose between the toes". When turning, do so by moving the feet, not twisting at the hips or back.
- When possible, test how much effort will be required prior to executing the task.
 - Test the task by using a sub-maximal effort and the principles listed above that can be applied in the situation.

Emergencies Affecting Multiple Individuals, Property and/or Environment

Many emergencies affecting multiple individuals, property and/or environment require evacuation. This poses a significant challenge when patients require assistance with movement.

Safe patient handling during normal circumstances requires a patient mobility assessment, appropriate safe patient handling and mobility equipment, optimal body position and mechanics, and optimal room setup/preparation. During emergency situations, time is of the essence; therefore, it may be difficult to satisfy all of these conditions. However, people should still attempt to position their bodies well and use any available equipment that may be present. When called upon to do manual patient lifting techniques, it is important that people attempt to employ the guidelines described in the preceding section on medical emergencies. Refer to

Appendix 4.1.1 - Patient Handling and Mobility Techniques for Emergency Evacuations for descriptions of techniques that may be used in a variety of situations.

When planning and preparing for emergencies, organizations should consider equipment designed for ensuring safe and effective transport of patients during evacuations. Examples of equipment designed for this purpose are the Evacused (Figure 4.1.1) and Evacuation Chair (Figure 4.1.2).



Figure 4.1.1 - Evacused

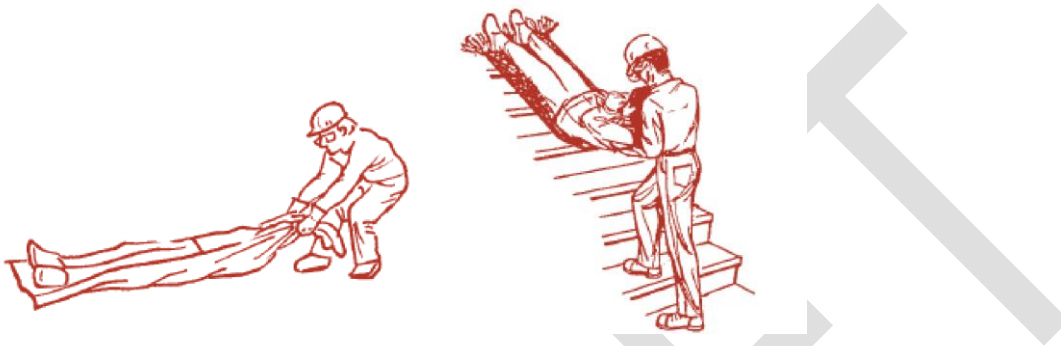


Figure 4.1.2 - Evacuation Chair

Appendix 4.1.1 - Patient Handling and Mobility Techniques for Emergency Evacuations

Evacuation of Non-Ambulatory Patients – Single Rescuer

Blanket Pull



Lower the bed to the lowest position possible so it keeps you and the patient's head lower, which may help to reduce being overcome by smoke in a fire.

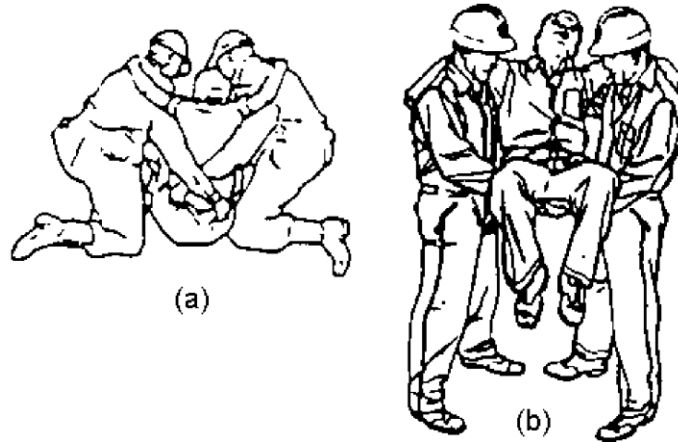
Before lowering the patient onto a blanket, **have approximately 1/3 of the blanket under the bed** so that the patient is centered on the blanket. This will also be helpful if you need to lift the patient; there will be enough excess blanket on either side of the patient to securely hold on to.

The patient should be lowered to the floor face up on the blanket. When lowering the patient alone, lift or push the patient's legs until they drop over the side of the bed. Bring the patient to a semi-upright position so that you are able to place your hands underneath the patient's armpits from behind. Clasp your hands together in front of the patient and slide them to the edge of the bed and then lower to the blanket.

Ensure, as you lower the patient to the floor, that you protect the patient's head. You may also want to place a pillow under the patient's head, if readily available, to protect their head as you pull them along the floor. Before you begin pulling the patient, wrap the blanket around the patient. Ensure that all of their body, including their heels, is on the blanket so that the blanket will slide easily along the floor.

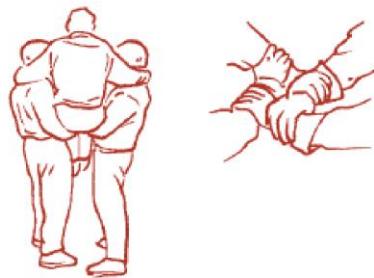
Evacuation of Non-Ambulatory Patients – Two Rescuers

Two-handed Seat



This position will support an unconscious patient. The rescuers should lock their wrists together: each person places one hand on the inside of the other rescuer's wrist. Both people should squat down so that they pick up the patient under their knees and around their shoulders.

Four-handed Seat



Patients must be conscious and alert to be carried in this manner. They must be able to place their arms around the rescuers' shoulders. Each rescuer positions their hands so they hold their own wrist with one hand and the wrist of the second rescuer with their other hand. Rescuers should lower themselves by bending their knees so that the patient can then sit in the seat.

Chair Carry



This can be used to carry patients up and down stairs if horizontal evacuation is not possible. The chair the patient is being carried in must be sturdy, non-folding, and without wheels. Chairs with wheels can be used to roll a patient, but they should not be used to carry anyone because often the chair base swivels. With the patient seated, one rescuer should be positioned behind the chair and the other in front. The rescuer at the back should hold both sides of the chair and tilt it backwards so that it is resting on its back legs. This makes it easier for the second rescuer to lift the chair by the bottom of the front legs. For short distances or in stairwells, the second rescuer should face the patient and grasp the chair legs. For longer distances, the second rescuer should back into the chair with their body between the patient's legs. The rescuer at the back of the chair should direct the movements of the rescuer at the front of the chair.

Two-Person Carry



If a chair is not readily available, use the two-person carry. One rescuer should be behind the patient. Ask the patient to cross their arms across their chest. Reach under the patient's arms from behind and grasp the patient's wrists. The rescuer carrying the legs can stand between the patient's legs facing the direction of travel (as illustrated) or can stand to the side of the patient's legs and carry them under the knees.

Evacuation of Non-Ambulatory Patients – More than Two Rescuers

Emergency Manual Lifts/Transfers (Floor, Chair, Toilet)

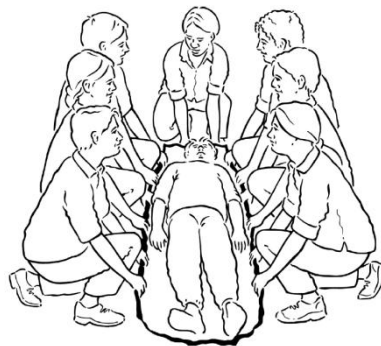
Manual Lift from Floor

Manual lifts from the floor (especially those within confined areas) are high risk. A mechanical lift (ceiling or floor) is undoubtedly the safest method of lifting a patient from the floor. However, if a mechanical lift transfer cannot be used, for example, if the patient has collapsed in an inaccessible area, a manual lifting transfer may be the only alternative.

Determine the safest method: this should take into consideration the varying heights of the rescuers, the environment, and the optimal positioning of the trolley. The risks are significantly increased if transferring directly to a bed because a bed is wider than a trolley. This causes the rescuers to hold the patient further away from their trunks, which increases the load on their spines.

This type of transfer is high risk – consider it only as a last resort. Make all individuals involved aware of the risks associated with this transfer and the physical abilities that will be required of them. The following is advised:

- The transfer must be well planned and all rescuers briefed – in total eight people will be required to assist.
- One person co-ordinates the commands and lifting activity; this person is required to support the head.
- Ensure that a designated lifting sheet (i.e., a sheet that has been designed for lifting) is available. A scoop stretcher may also be used.
 - When a designated lifting sheet is not available the edges of a blanket can be rolled to make an improvised stretcher. The blanket should be rolled on each side towards the patient. This creates a long tube for rescuers to hold on to. Rescuers should keep their backs straight and ensure their knees are bent so they are using leg strength when lifting and carrying the patient.
- Logroll the patient onto the lifting sheet.
- A minimum of three people must be positioned on each side of the patient.



- An additional person will need to position the stretcher under the patient.
- Each rescuer faces the patient and drops down into the half-kneeling position (or into a position they feel comfortable in and are able to rise safely from).
- Each rescuer grasps the lifting sheet (or handles if present) with their wrists in a neutral position, and palms up.
- On the command, the rescuers stand lifting the patient to approximately waist height.
- The patient is transferred onto an appropriately positioned height-adjustable stretcher.

Sitting

If the patient is sitting he or she must be lowered to the floor to provide effective chest compressions. This maneuver should be carried out in a safe and controlled manner. Transferring a patient from a seated position onto the floor is high risk. Do not move the patient directly from the chair to the bed/trolley. An exception to this may be if the patient is already sitting on a sling and a mechanical lift is readily available. The optimal number of people required to perform this transfer is three. If fewer than three people are available, a transfer that is less than optimal may have to be attempted. Wherever possible, wait for additional people to provide assistance.

Three-Person Transfer

- The chair must be secure, with any brakes in the “on” position.
- If a sliding sheet is readily available, place it under the patient’s feet and extend their legs. This will enable the patient’s feet and legs to slide away from the chair as they are lowered onto the floor.
- One rescuer supports the head by standing at the side of the chair, level with the patient’s head.
- The other two rescuers face the patient in the chair and position themselves slightly in front and to the side of the chair.
- These rescuers get into a half-kneeling position with their innermost knee on the floor and grasp hold of the patient at the back of the pelvis/hip region with their outermost hand, and behind the patient’s knee with their innermost hand. An alternative is to use the high-kneeling position (both shins flat on the floor, knees flexed to 90°, upper body is in an upright position without any hip flexion), which some rescuers may find more comfortable.



- If the patient is dressed, it may be helpful to grasp their clothing or belt.
- On the command from one rescuer, each kneeling rescuer transfers their body weight back towards their heels. This pulls the patient forward out of the chair into a sitting position on the floor with their back resting against the chair.

Note: A pillow placed on the floor to cushion the fall is more of a hindrance than a help.

- Once in this position, either:
 - a. Move the chair and lower the patient's head and chest carefully to the floor, or
 - b. Pull the patient's legs forwards away from the chair until the patient is supine.

Two-person Transfer

- Both rescuers face the patient in the chair, and position themselves slightly in front and to the side of the chair.
- If readily available, place a sliding sheet under the patient's feet.
- Both rescuers get into a half-kneeling position with their innermost knee on the floor, and grasp the patient at the back of the pelvis/hip region with their outermost hand and behind the patient's knee with their innermost hand. An alternative option is to use the high-kneeling position, which some rescuers may find more comfortable.



- If the patient is dressed, it may be helpful to grasp their clothing or belt.
- On the command from one rescuer, each kneeling rescuer transfers their body weight back towards their heels. This pulls the patient forward out of the chair into a sitting position on the floor with their back resting against the chair.



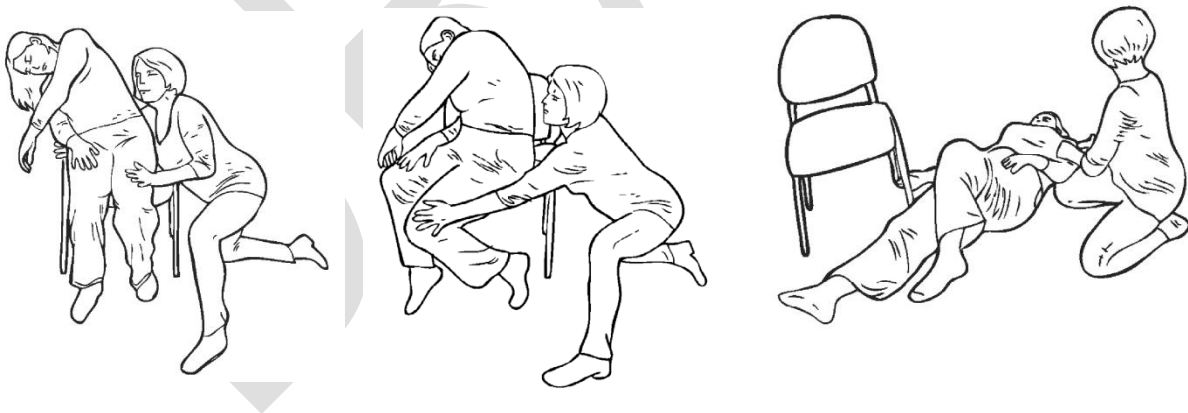
Note: A pillow placed on the floor in front of the chair to cushion the fall is more of a hindrance than a help.

- Once the patient is in the sitting position on the floor, one rescuer takes responsibility for supporting their head while the other pulls the patient's legs forwards and away from the chair, or if there is enough room, moves the chair. Alternatively, one rescuer gently pushes the patient sideways towards the other rescuer who lowers the patient safely to the floor.

One-person Transfer

Whenever possible, one rescuer should not undertake this task alone and should wait for assistance to arrive. However, in some situations, such as a patient arriving in a car in full cardiac arrest, a rescuer may need to begin resuscitation and will have to transfer the patient to the floor. This is a high-risk activity, and it should be undertaken only in life-threatening or exceptional circumstances.

- Kneel on the floor to one side of the patient.
- Position the patient's arm that is closest to you across their chest.
- Push against the patient's thigh nearest to you with both your hands to position the patient's hips at the front of the chair.
- Place your hand around the patient's furthest hip. Place your other hand on the patient's thigh closest to you.
- Push/pull the patient down to the floor.



On the Toilet

If a patient has a cardiac arrest on the toilet, it is likely the patient will fall either sideways or forwards. Before transferring the patient onto the floor, it is important that the door to the room is open. This will enable other rescuers to enter the room easily. If the patient still remains on the toilet, they will need to be transferred to the floor using a similar technique previously described for a sitting position.

- If the patient is dressed, it may be helpful to grasp their upper clothing.
- Avoid entrapment of the genitalia.

The above techniques have been found to be the most effective transfer techniques in emergency situations.

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