



Mechanical Lifts: Safe and Effective Use

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After reading the newsletter, the nursing assistant should be able to:

1. Describe the risks of manual lifting to the caregiver and patient.
2. Identify two main types of lifts and their functions.
3. Discuss safety measures in using mechanical lifts.

In the year 2011, almost 3 million US workers sustained work-related injuries, a rate of more than 3 out of every 100 workers. According to recent data from the Bureau of Labor Statistics, nursing assistants are among the workers most likely to suffer work-related injuries. Most of these injuries are musculoskeletal disorders affecting the back, shoulders, and arms, and most are caused by overexertion in lifting or lowering. In fact, nursing assistants suffer more work-related musculoskeletal disorders than any other healthcare workers.



For nursing assistants working in hospitals, the need to position and transfer patients can occur many times per day. This can cause serious injury to the care provider, either from trauma that happens suddenly during one incident, or less noticeable trauma that accumulates over time. One of the ways in which some of this risk can be reduced is by the use of mechanical lifts. These are pieces of equipment designed to lift and move patients safely, without the risk of injury to care providers.

This newsletter will discuss the use of mechanical lifts, including types of lifts, how they are operated, and safety precautions.

Mechanical Lifts and Safety

As the number of elderly persons increases, and obesity rates rapidly rise, the task of lifting and transferring patients becomes more

challenging for healthcare providers. Publications from the Centers for Disease Control and Prevention (CDC) state that the use of "proper body mechanics" is not sufficient to prevent staff injury when moving patients. The CDC considers manual lifting of adult patients as "inherently unsafe," and maintains that there is no safe way to manually lift another adult human being. The CDC recommends that mechanical lifts be used as part of a safe patient lifting program in healthcare facilities. To prevent staff injury, healthcare facilities should develop policies indicating how patients are to be safely moved. A number of states have enacted safe patient handling legislation, some of which require that mechanical lifts be available for staff use in moving/transferring patients. Be familiar with policies at your facility and in your state, and adhere to the guidelines for safe movement of patients.



In addition to improved staff safety, the CDC also indicates that there is increased job satisfaction among staff using mechanical lifts. The use of mechanical lifts can also improve patient safety, with fewer falls, skin tears, bruises and other injuries. The few extra minutes it takes to use lifts bring great benefits.

Using Mechanical Lifts

A number of factors must be considered in determining whether a patient should be moved using a lift.

These include the patient's body weight, ability to cooperate, ability to bear weight, and the amount of upper body strength. For example, a patient who weighs 250 lbs, cannot bear much weight and has little upper body strength will need to be moved from the bed to chair using a mechanical lift. A patient who weighs 120 lbs, has good upper body strength and can bear weight can probably be transferred to the chair using a gait belt and pivot technique. The nurse should assess the patient for lifting/transfer needs and determine the most appropriate method.

Types of Mechanical Lifts

There are many types and brand names of mechanical lifts. Lifts may be portable, meaning they can be rolled from room to room. Or, they may be installed in the ceiling, to run along tracks. In addition to these basic types, some specialty equipment, such as bathtubs, may have its own lift system attached to it.

Lifts are also categorized by their function and the assistance they provide. Common types include: **Sling lifts:** These lift the patient using a sling device that covers and supports the shoulders, back and hips. The lift can move the patient from one location to another, such as the bed to chair. Most can also raise patients from the floor, if they have fallen.

Sit to Stand lifts: These lifts are used to support patients who have some ability to bear weight, but need assistance rising from a seated to standing position. A harness is placed around the patient's chest, which assists the patient to stand up. The patient may also walk with support, using the lift.



These lifts may operate manually, by hydraulic power, or may be battery- or electric-powered.

Safe Use of Mechanical Lifts

Before using any mechanical lift, you must have thorough instruction and practice in its use. Let the nurse know if you have any questions or concerns.

Instructions for operating mechanical lifts are specific to each type of lift. However, there are general guidelines that should be followed. Before each use, make sure the lift is in good working order. Never use a lift if parts are loose or missing, the sling or harness is frayed, or there is anything else that does not look right. Ensure that the lift you are using is approved for the patient's weight, and do not use it if the patient's weight exceeds the recommended limit. Large patients may require special bariatric lifts, designed for heavier lifting.

Before using the mechanical lift, explain to the patient exactly what you will do and what he/she will experience during the lift. Some patients may be reluctant at first, due to fear, and may need gentle reassurance. Apply the sling or harness securely, according to the lift's instructions. Make sure, when applying the sling or harness, that the patient's skin and other body parts are not damaged. The openings of any hooks should be facing away from the patient. For portable lifts with a boom (the large weight-bearing arm), make sure that the boom is directly over the feet of the lift, so that tipping or loss of balance does not occur. The feet of the lift should be moved to their widest position for stability. Move the lift so that it is close to the patient. Attach the sling or harness to the lift, make sure the patient is comfortable, and operate the lift as per directions, such as by a pump handle or "on" switch. For a sling lift, make sure the patient is completely raised off of the bed before moving the lift. Move the lift to transfer the patient to the desired location, such as a wheelchair, and lower the patient gently into place.



Safety is the most important principle when lifting a patient. There may be some patients for whom mechanical lifting is not safe. These may include patients who have had recent spinal injury or spinal surgery, joint replacement, hip fracture or surgery. It may also be unsafe to lift an agitated, combative patient, who is at increased risk of falling out of or tipping over the lift equipment. And, the mechanical lift should not be used for a patient who refuses it. If a patient refuses, let the nurse know. Providing information and reassurance to the patient is often helpful in this situation.

It is very important to maintain the patient's privacy and dignity during a lift. Make sure the patient is appropriately covered with clothing so that exposure does not occur. Close the door or curtains so that the patient does not feel "on display."

After the transfer, check to see how the patient has tolerated it. For some patients, this procedure can be very tiring or anxiety-producing, leading to shortness of breath and fatigue. Make the patient comfortable and check on him/her frequently. If the patient's condition does not return to his/her normal within a few minutes, notify the nurse.

Mechanical lifts are recommended to avoid injury to both caregivers and patients. Careful attention and thorough knowledge of how to use the lift promote a safe and effective transfer experience for patients.