

# The Illustrated Guide to Safe Patient Handling and Movement

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# Contents

Contributing Authors .....	ix
Forewords .....	xii
Preface .....	xv
Acknowledgments .....	xviii
Chapter 1: Introduction .....	1
<i>Nancy Nivison Menzel, Kathleen Motacki, and Audrey L. Nelson</i>	
Chapter 2: Common Patient-Transfer Tasks (Across Multiple Settings) .....	7
<i>Nancy Nivison Menzel, Marylou Muir, and Simon Wells</i>	
Chapter 3: Bariatric Patient-Handling Tasks .....	31
<i>Marylou Muir</i>	
Chapter 4: Medical-Surgical Nursing .....	61
<i>Laurette Wright and Elly Waaijer</i>	
Chapter 5: Critical Care .....	79
<i>Andrea Baptiste and Patricia Mechan</i>	
Chapter 6: Orthopaedics .....	91
<i>Carol A. Sedlak and Margaret O. Doheny</i>	
Chapter 7: Pediatrics .....	103
<i>Kathleen Motacki</i>	
Chapter 8: Labor and Delivery .....	117
<i>Laura Murphy, Jennifer Giordano, and Kathleen Motacki</i>	
Chapter 9: Patient-Handling Tasks in Rehabilitation .....	131
<i>Karen Manning</i>	
Chapter 10: Nursing Home .....	147
<i>Linn Steer and Laurette Wright</i>	

Appendix A: Algorithms ..... 169

Appendix B: Pediatric Slings Guide ..... 207

Glossary ..... 213

Index ..... 223

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# Forewords

Without question, the issue of safe patient handling is vitally important. As we progress into a deepening nursing shortage, we must protect our valuable health care resources—our nurses. Nurses and student nurses are at risk for injuries that can impair their health and productivity over both the short and long terms. Nursing consistently ranks in the top 10 occupations with significant work-related musculoskeletal disorders (MSDs), with an average of 7 workdays missed annually as a result.<sup>1</sup> Moreover, as the graying of the nursing workforce continues and as the American obesity epidemic burgeons, MSDs pose great risks not only to individual nurse safety, but also to the retention and recruitment of current and future nurses.<sup>2</sup> As research notes, despite the teaching and implementation of safe patient handling techniques in countless schools of nursing, many nurses still suffer from MSDs. Because safe patient-lifting matrices are complex, staffing shortages continue, and lifting technologies are available, “no-lift” policies must become a research priority for our profession. They must also be part of nursing education as well, even as we make advancements in ergonomics.

Both the American Association of Colleges of Nursing (AACN) and American Nurses Association (ANA) have issued several positions in support of safe patient-handling and no-lift policies. Because many schools have long relied on outdated techniques and approaches to safe patient handling, the ANA supports the introduction of safe patient handling education into the curriculum, including the use of lifting technologies. This effort must also include the sharing of best practices among member institutions in addition to the support of pilot programs focused on safe nursing practice. Because the use and knowledge of safety technologies is critical to safe nurse practice, the AACN and ANA note that, in addition to applying and teaching proper technique and positioning in patient lifting, nurses must also develop the ability to assess and use new technologies. Moreover, as a steadfast advocate for research and evidenced-based practice, the AACN encourages nursing faculty engaged in research to focus on no-lift policies and practices and measure their impact on patient safety.

If we fail to provide our nurses with a safe work environment, I have no doubt that the nursing shortage that currently plagues our country will only intensify.

<sup>1</sup>U.S. Bureau of Labor Statistics. (2006). Nonfatal occupational injuries and illnesses requiring days away from work, 2005. Retrieved November 17, 2007 from <http://www.bls.gov/news.release/osh2.nr0.htm>.

<sup>2</sup>Menzel, N. N., Hughes, N. L., Waters, T., Shores, L. S., & Nelson, A. (2007). Preventing musculoskeletal disorders in nurses: A safe patient handling curriculum module for nursing schools. *Nurse Educator*, 32(3), 130–135.

Not only will advances in technique and the use of no-lift policies utilizing technology create safer work conditions for our nurses, but they will also create safer conditions for our patients. The nursing profession cannot sustain the level of MSDs that it has in the past if it aspires to attract and retain the best and brightest students and professionals. Benjamin Franklin poignantly stated that the definition of insanity was to keep doing what you are doing and expect different results. In regard to safe patient handling, we cannot expect the old ways to generate different outcomes. If we stay the course, we will continue to see alarming rates of MSDs and an assured decline in our workforce, two outcomes that do not bode well for the American health care system. As has been the case in Europe for well over 15 years, we must give serious consideration to collective no-lift policies if we are to protect our nurses and the future of nursing itself.

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The National League for Nursing (NLN) is proud of the role it has played to support and advance reform in nursing education. The mission of the NLN is to promote excellence in nursing education to build a strong and diverse nursing workforce. The NLN implements its mission guided by four dynamic and integrated core values: caring, integrity, diversity, and excellence. These values permeate the work of the organization to promote the preparation of a nursing workforce that contributes to health care quality and safety. These core values are the foundation of an organization that values the best interests and perspectives of all stakeholders; moves beyond simple tolerance to embrace and celebrate the richness of diverse opinions, systems, and beliefs; and reflects a commitment to continuous growth and transformation.

Within this context, the NLN's current strategic plan calls for enhancing the NLN's national and international impact to become a key player in creating a community of nurse educators from around the world that addresses and influences issues related to excellence in nursing education. This community would also commit itself to being a diverse, member-led organization that champions nurse educators in political, academic, and professional arenas. The advancement of the science of nursing education, through promotion of evidence-based nursing education and the scholarship of teaching, continues to be at the forefront of NLN decision making about future initiatives.

At the forefront of this commitment is recognition that to be a truly effective professional voice for its members, the NLN must create mechanisms to invite dialogue to offer new and differing perspectives. From its earliest days, the NLN has been a catalyst to ignite reform efforts in nursing education. In the 1980s, the NLN supported the leaders of the curriculum revolution and invited nurse educators to be risky and unconventional, to embrace cutting-edge thinking about how teachers teach and how students are taught (Ironside, P., & Valiga, T. M. (2007). How innovative are we? What is the nature

of our innovation? *Nursing Education Perspectives*, 28(1), 51–53.). The NLN's position papers on *Innovation in Nursing Education, A Call to Reform* (2003) and *Transforming Nursing Education* (2005) recommended that proposed changes to nursing education be informed by clinical practice and emanate from evidence that substantiates the science of nursing education. Throughout the NLN's history, members of the NLN have called upon their colleagues to be open to new ideas and to rethink approaches to curriculum design.

The authors of this guide to safe patient handling and movement are calling again for reform in nursing education. The movement to create educational environments that promote safe patient-handling techniques will require nurse educators to reframe their thinking, once again, about traditional approaches to body mechanics and to consider new ways to teach tried-and-true, fundamental skills. The evidence-based methods suggested in these pages protect nurses from injury and ultimately improve patient care. The authors seek to create new models for curriculum development and reform, understanding that finding new ways to generate positive and enduring change is the essence of transformation. The NLN is honored to support this essential and pioneering work. These efforts are at the heart of NLN's mission to advance excellence in nursing education to build a competent, ethical, diverse, and caring nursing workforce.

M. Elaine Tagliareni EdD, RN  
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# Preface

We have over three decades of epidemiological research providing evidence that patient-handling tasks are performed at high risk to the caregiver (Nelson & Baptiste, 2006). In the past decade, technological solutions have emerged to significantly reduce this risk. As with any innovation, it takes time for these new approaches to be imbedded into practice. Changing practice is hard! Nearly every nurse in the United States was taught manual patient-handling techniques during basic training. We now know that there is no safe way to perform manual patient handling (Corlett, Lloyd, Tarling, Troup, & Wright, 1993; Nelson & Baptiste, 2006). The recommended safe limit for manual handling is 35 lbs, a weight far lower than many institutions expect their caregivers to lift routinely (Waters, 2007). Efforts are under way to pass state or national policies banning this practice (Corlett et al., 1993; Hignett et al., 2003; Nelson et al., 2007).

The purpose of this book is to describe new techniques and technologies designed to reduce caregiver risk associated with high-risk patient-handling tasks. A high-risk patient-handling task is defined as any patient-care assignment that pushes the limits of human capabilities, including those that require lifting a heavy load, sustained awkward position, bending/twisting when performing the task, excessive reaching to get the task done, tasks of long duration that contribute to fatigue, tasks that require excessive force on one or more joints or body parts, and tasks that require standing for long periods of time (static posture).

Patient-transfer tasks are high risk and occur in every clinical setting. Chapter 2 describes common patient-transfer tasks that occur across multiple health care settings; these tasks include vertical (seated) transfers, lateral (supine) transfers, bed and chair repositioning, and picking a patient up off the floor after a fall. In addition to these generic high-risk patient-handling tasks, each clinical setting has high-risk tasks that match the patient characteristics and activities unique to that setting. For example, in long-term care settings, over 19 stressful tasks have been identified (Bell, Dalgity, Fennell, & Aitken, 1979; Garg & Owen, 1992; Hui, Ng, Yeung, & Hui-Chan, 2001; Owen, 1987; Owen, Keene, Olson & Garg, 1995; Schibye & Skotte, 2000; Smedley, Egger, Cooper, & Coggon, 1995). Common high-risk tasks in long-term care settings include feeding a resident in bed or a seated position, performing hygiene care in a seated position, and transferring in/out of a geriatric dependency chair.

This book is targeted to meet the needs of students, direct caregivers, managers, administrators, risk managers, educators, industrial hygienists/safety professionals, and researchers of any discipline who are interested in advancing safety for patients and caregivers. Rather than present a generic approach to safe patient handling, this book is one of the first efforts to address not only

the commonly encountered high-risk tasks, but also the unique high-risk tasks inherent in specific clinical settings: medical-surgical, critical care, orthopaedics, pediatrics, labor and delivery, rehabilitation, perioperative, and nursing homes (Nelson, 2005). Chapter 3 highlights special risks associated with safe patient handling in morbidly obese (bariatric) patients, whose numbers have increased in all settings.

The science for safe patient handling has evolved. The challenge now is to (1) teach these new evidence-based approaches in schools of nursing, physical therapy, occupational therapy, and other educational programs for direct-care providers; and (2) apply this research to practice in support of safer working environments for caregivers across settings of care. This means eliminating manual patient handling and the over-reliance on body mechanics for safety. Rather, health care settings need to be more focused on evidence-based approaches, including use of patient-handling technologies, environmental modifications, administrative controls (e.g., scheduling, assignments), low-lift policies, clinical decision-making tools (e.g., algorithms or patient-care assessment protocols), staff training on safe use of patient-handling equipment, unit-based peer leaders, or lift teams.

Safe-patient-handling experts from many countries wrote these chapters and provided photographs and video tutorials (on the accompanying DVD) to illustrate techniques. Although the editors ensured that the text reflects best practices, some of the illustrations contain deviations from best practices. You will learn a great deal by comparing “ideal” with “real” on the accompanying DVD. There is also an Instructor’s Guide with test questions, available at the Springer Publishing Website.

We know that you will come away from reading this book with information that you can employ in a variety of clinical settings. This is a resource guide that students and instructors can use as a training tool in different clinical rotations, newly hired caregivers can consult to identify patient-handling solutions, and current staff can review for new ways of managing patient care. Opening these issues up for question and resolution in a patient-care environment is an arduous but very rewarding task, and in the end, an essential exercise. Given the looming nursing shortage, implementation of these evidence-based strategies will be a crucial step in recruiting and retaining a competent nursing workforce.

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- Guldman, Inc.
  - Daniel Hedden Photography
  - Patricia Mechan, PT, MPH, CCS

### **Chapter 9. Patient-Handling Tasks in Rehabilitation**

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### **Chapter 10. Nursing Home**

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# Introduction

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Providing direct patient care is hazardous work. Although a caregiver's risk for infectious disease and chemical exposures are work-related hazards that spring immediately to mind, a less obvious hazard is arguably the most dangerous: manual patient handling. Almost all caregivers face this risk numerous times a day as they provide care to patients who must be repositioned in beds or chairs, transferred from beds and stretchers, transported to various locations in (and out of) health care facilities, assisted with ambulation, and aided in performing the activities of daily living. The risk for caregiver injury has been increased by the rising number of morbidly obese (bariatric) patients seeking health care. In addition to risks to the caregiver, unsafe patient-handling practices can contribute to patient injury, associated with "drops and drags," that is, fall-related injuries during patient transfers or skin tears and lesions associated with sheer force as a patient is pushed/pulled across a surface.

Manual handling has been a job expectation for caregivers since Florence Nightingale's time, despite advances in other industries (e.g., manufacturing and shipping) that rely on technology, not brute strength, to do the heavy lifting. In contrast, hospitals have been slow to adopt new patient-handling technology, relying instead on old-fashioned manual handling.

Schools of nursing, physical therapy, and occupational therapy, both in the United States and internationally, have continued to teach body mechanics, an approach based on the premise that proper body positioning of the caregiver's body will alleviate the damaging forces placed on the musculoskeletal system when performing lifting, turning, and other patient-care tasks. However, there is no evidence that body mechanics alone protect caregivers from the musculoskeletal disorders (MSDs) that result from lifting, repositioning, and moving patients (Hignett, 2003). In fact, the high incidence of MSDs, such as back injuries in caregivers, provides silent testimony to the ineffectiveness of body mechanics in protecting against the forces in a caregiver's normal workload: lifting an estimated 1.8 tons in an 8-hour day (Tuohy-Main, 1997). In 2006, registered nurses had the fifth highest number of MSDs in the United States, exceeding even the traditional laboring occupations of truck driver, construction laborer, and maintenance worker (U.S. Department of Labor Bureau of Labor Statistics, 2007).

In contrast to body mechanics, for which there is no scientific support of effectiveness, there is extensive evidence that supports use of technology for safe patient handling as effective in reducing the strain of lifting heavy loads, frequent repetition of stressful tasks, maintaining awkward postures, standing for long periods of time, bending, stooping, reaching, pushing, and pulling. If schools of nursing, physical therapy, and occupational therapy teach these contemporary, evidence-based approaches, a new generation of graduates will transform the direct caregiving practices; they will view the safety of the caregiver as integral to the safety of the patient and demand technology to protect both parties.

Caregivers who routinely perform unsafe (manual) patient lifting and repositioning are at great risk for MSDs and shortened careers; they then face many years of disability and reduced earnings. Further, the quality of care is jeopardized when care is provided by injured workers who are forced to protect themselves and avoid some patient-handling tasks, or when there are fewer direct caregivers as a result of injured workers. Caregivers can prevent these adverse outcomes by making it their responsibility to know how to work safely in health care.

## Understanding Evidence-Based Safe Patient Handling Program

The safe patient-handling program was developed by the Department of Veterans Affairs (VHA) VISN 8 Patient Safety Center of Inquiry (Nelson, 2006b), built on the evidence that the maximum safe manual lift is 35 lb (Waters, 2007). The system is similar to the nursing process, in that it begins with assessing the patient, then goes on to planning and implementation by selecting the most appropriate technique to accomplish the required task. In most cases, these approaches to reduce manual handling require the use of assistive equipment, such as ceiling-mounted patient lifts or friction-reducing devices. In other instances, specialized equipment, such as beds that convert to chairs, eliminate the need for manual handling altogether.

Components of the program, described in more detail by Nelson (2006a), include these:

- Assessment (Assessment Criteria and Care Plan)
- Care Plan (Assessment Criteria and Care Plan)
- Intervention (Algorithms)

## Assessment Criteria and Care Plan

Every patient-handling task is different, depending on patient characteristics, condition, and needs. The Assessment Criteria and Care Plan is a caregiver aid to evaluate the patient's upper and lower body strength, ability to understand and cooperate, body mass index (BMI), and the presence of other conditions that affect the patient-handling task. The caregiver uses the assessment criteria to plan the safest way to accomplish the required task. The Assessment Criteria and Care Plan Form is included in Appendix A.

## Algorithms

These are step-by-step problem-solving procedures. The algorithms in this book describe the process for carrying out specific patient activities safely. Each algorithm contains a series of decision boxes (based on assessment criteria) to determine the number of caregivers required and the types of equipment that should be used for the designated patient-handling task. An algorithm serves to reduce unnecessary variation in practice and to improve safety outcomes for the caregiver and the patient. The algorithms are guides only; each caregiver must use clinical judgment in selecting or modifying the best approach for an individual patient. The algorithms are included in the Appendices and should be referred to when the text indicates they are applicable. Unfortunately, algorithms do not exist for every high-risk task. In addition to algorithms for common high-risk tasks (originally developed and tested in nursing homes and rehabilitation settings), national task forces in the United States have developed additional algorithms for perioperative care and orthopaedics. Plans are under way to develop and test algorithms in other specialty areas.

## Driving Change in Practice by Changing Curricula in Schools of Nursing, Physical Therapy, and Occupational Therapy

In the absence of any national workplace ergonomics standard, many health care facilities have their own policies and procedures on patient lifting and movement. Some may not have any written policies, however, implying that the facility relies on its caregivers to perform tasks in an unsafe manner; that is, manual handling. Facilities may or may not have an adequate number of well-maintained and conveniently located patient-handling assistive devices. Some facilities may have equipment but may not enforce or support its use. If faced with lack of support from their employers, caregivers must speak up to advocate for both themselves and their patients. This book provides the safest approaches to performing many patient-handling tasks; facilities should adopt these approaches as the standard of care.

To help drive change, schools should consider requiring facilities with which they affiliate to provide safe patient-handling equipment. There is evidence that many MSDs begin while a future caregiver is in school and are aggravated in the first year of practice (Klaber Moffett, Hughes, & Griffiths, 1993; Smith & Leggatt, 2004). Schools must become part of the solution and not the origin of the problem.

Further, new graduates should apply for positions only at institutions that provide copies of their safe-lifting policy and a description of the safe-lifting equipment in assigned work areas. In this time of shortages for nurses and therapists, once facilities realize that the new generation of students will be looking for these things upon hire, hospitals may move closer to developing a safe-lifting plan for the facility.

Change is on the horizon. Several U.S. states (e.g., Texas, Washington, Minnesota, Rhode Island) have passed safe patient-handling laws by 2008. The United States lags behind the European Union, which has had regulations that ban manual handling since 1992.

## Layout and Use of Book

This book illustrates safe patient-handling and -movement techniques from several different clinical practice settings. It begins with tasks common across all clinical areas, such as transferring a patient from a bed to a chair. It then provides tasks found in specialty clinical areas: bariatrics, medical/surgical, critical care, orthopaedics, pediatrics, labor and delivery, rehabilitation, and nursing homes.

Each specialty chapter is organized as follows:

1. Description of setting
2. Unique challenges to providing safe patient handling in this setting
3. High-risk tasks
4. Objectives
5. Pre-test questions
6. General directions for all tasks
7. Description, risks, assessment criteria, resources, and techniques for each high-risk task identified
8. Case studies with discussion questions
9. Post-test questions
10. References
11. Additional reading

Each chapter includes helpful hints, as well as photographs, illustrations, and video streams depicting the techniques and technologies recommended. Algorithms specify appropriate techniques and technologies, based on patient assessment and task. (Algorithms are clinical tools designed to make an evidence-based decision in a finite number of steps.) Use algorithms as guides only; they do not replace good clinical judgment. Algorithms offer an advantage of reducing unnecessary variations in practice, likely to affect patient and caregiver outcomes. The algorithms are located in the Appendices for easy reference. The Appendices also contain two resource guides: Technology Resource Guide

and Sling Resource Guide. The Glossary provides a brief definition of patient-handling terms. Consult the Index to quickly locate tasks you must perform.

Two documents are referred to throughout the book. They are the “Technology Resource Guide” and the “Sling Technology Resource Guide.” We did not include them in the book because they are updated regularly, and we wanted to be sure that you had the latest information available.

These guides can be downloaded from the Internet.

- Technology Resource Guide: <http://www.visn8.med.va.gov/patientsafetycenter/safePtHandling/default.asp>
- Sling Technology Resource Guide: <http://www.visn8.med.va.gov/patientsafetycenter/safePtHandling/toolkitSlings.asp>

Be sure to read *General Directions for All Tasks* before practicing any of the recommended techniques. This section contains principles and information vital to your safety and the well-being of your patient.

We suggest you begin each chapter by taking the Pre-test to gauge your knowledge of safe patient-handling before reading the techniques. This will help you look for answers while you are reading and looking at the illustrations, so that you will master the post-test questions (which are the same ones).

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# Common Patient-Transfer Tasks (Across Multiple Settings)

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2

## Description of Setting

The purpose of this chapter is to familiarize the reader with the principles of patient-handling tasks commonly performed across multiple clinical settings. Subsequent chapters will illustrate tasks associated with specific patient-care areas. In this chapter, we discuss algorithms for patients with a Body Mass Index (BMI) of 50 or lower (Department of Veterans Affairs [VHA] VISN 8 Patient Safety Center of Inquiry, 2006), because larger patients require specialized equipment and procedures due to their body mass and shape. Because each patient has individual needs, caregivers must carefully assess their abilities prior to carrying out any patient-handling or -movement task. Any task requiring the caregiver to lift more than 35 pounds will require the use of patient-handling equipment (Waters, 2007).

7

## Objectives

1. Identify high-risk patient-handling tasks commonly found across many patient-care settings.
2. Delineate the number of caregivers, types of equipment, and techniques for performing each high-risk patient-handling task safely.

## Pre-Test Questions

- 2-1. What is the first step when preparing to handle or move a patient?
  - a. Obtain lifting equipment.
  - b. Assess the patient.
  - c. Select the correct algorithm.
  - d. Enlist help of peers.
- 2-2. What is the most important factor in deciding what technique to use when transferring a patient from bed to wheelchair?
  - a. Number of staff available to help
  - b. Whether the bed is height adjustable
  - c. Patient abilities
  - d. Strength of caregiver
- 2-3. A 145-lb patient, although cooperative, cannot bear weight and has limited upper-extremity strength. If you have to transfer this patient from a bed to a wheelchair, which of these statements is correct?
  - a. Three caregivers using good body mechanics will allow for safe manual handling.
  - b. A seated transfer aid is appropriate.
  - c. Use a gait belt and two caregivers.
  - d. Use a floor-based patient lift and two caregivers.
- 2-4. Mrs. Smith was independent for daily activities. As she was walking to the bathroom, she slipped on some spilled water on the floor and fell to the ground. The nurse found her lying on the floor, trying to get up. The patient is asking the nurse to help pull her up to a standing position. Before assisting the patient up off the floor, the nurse should:
  - a. Call for assistance
  - b. Cover the patient with a blanket and go for help
  - c. Assess the patient for injury and determine the best method to provide assistance
  - d. Offer a helping hand and gently pull the patient up off the floor
- 2-5. Mrs. Smith (described in Question 2-4) can move all her limbs and has a good range of motion but is complaining of a sore shoulder. The nurse should:
  - a. Provide a chair and verbal cues for Mrs. Smith to assist herself off the floor
  - b. Use a floor-based patient lift to assist her off the floor
  - c. Call for three more staff members to manually assist her off the floor
  - d. Call for a portable X-ray to examine her shoulder

- 2-6. Mr. Johnson weighs 225 pounds. He is partially able to assist himself. He has slipped down in bed and needs to be repositioned up and turned on his left side. The nurse should do the following:
- Use four caregivers to reposition the patient with draw sheet or incontinence pad.
  - Without additional caregivers, reposition patient up in bed using a friction-reducing device (FRD) and ceiling-mounted patient lift.
  - Use two caregivers to reposition the patient using a floor-based patient lift.
  - Use three caregivers to reposition the patient using an FRD.

## General Directions for All Tasks

- Complete *Assessment Criteria and Care Plan* for patient. Key assessment factors include: physical ability to assist, ability to follow instructions, and cooperation. (Note: weight and height may trigger use of bariatric algorithms.)
- Review the algorithm for the high-risk patient-handling task to be performed and determine the number of caregivers, types of equipment and techniques for performing each high-risk patient-handling task safely. If no algorithm exists, use the techniques described in this book to guide practice.
- Check the weight capacity of the equipment to be sure it is safe to handle the patient's weight.
- Remove obstacles to perform the patient-handling tasks. Obstacles include having too little room to maneuver the equipment, equipment stored on the floor posing a tripping hazard, or inability to perform the activity without threats to patient dignity (e.g., lack of privacy). You may need to remove chairs or bed tables, separate beds, move floor-based equipment, and ask visitors to leave.
- Make sure selected equipment is in good working order. If the equipment is battery operated, check that the battery is charged. Verify that the appropriate slings and attachments are available. Review safe operation of the equipment, including location of emergency buttons or manual controls in the event of a power failure.
- Ensure sufficient caregivers are available to help, as specified in the algorithm.
- Make sure beds are adjusted to caregiver's waist/elbow height before performing bed-related patient-handling tasks.
- Explain the procedure to the patient and assisting caregivers.
- Wear gloves according to proper infection-control practices and facility policies.

## Patient-Care Slings

A patient-care sling is a fabric device that is used with mechanical lifting equipment to temporarily lift or suspend a patient or body part to perform a patient-handling task. Slings attach to lifts by different types of attachment/

spreader bars. A disposable or patient-specific sling is used for one patient only. Task-specific slings are designed for ambulation, hygiene, limb support, or to support the patient in a standing, supine, or seated position.

- Standing slings assist caregivers to toilet or dress patients, as well as for vertical transfers.
- Supine slings assist caregivers in performing lateral transfers (e.g. transfer in a supine position from bed to stretcher), making occupied beds, bathing, repositioning patients in bed, or rescuing fallen patients from the floor.
- Seated slings enable caregivers to transfer and lift patients in a sitting position, or reposition patients in a chair, among other uses.
- Hygiene slings are made of mesh fabric and are used for showering a patient.

Selecting the right sling for a patient-handling task depends on many factors, including the aim of the task, patient characteristics, and manufacturer's specifications. Caregivers may download a copy of the Patient-Care Sling Selection and Usage Toolkit from the VISN 8 Patient Safety Center of Inquiry for additional information (<http://www.visn8.med.va.gov/patientsafetycenter/safePtHandling/toolkitSlings.asp>).

## Transferring a Patient from Bed to Chair, Chair to Toilet, or Chair to Chair, Using Ceiling-Mounted Patient Lift

### Description of Task and Associated Risks

To assist patients to maintain or recover health, vertical patient transfers are needed to transfer from bed to chair (or the reverse). Vertical transfers are performed when the patient is in a seated position. Transferring patients from bed to chair involves the caregiver-risk factors of lifting heavy loads, twisting, awkward postures, and frequency.

Refer to Algorithm 1 (Appendix A). The method required depends on the results of the patient assessment. For patients who are unable to bear weight fully, variations include the use of one of the following: ceiling lift, floor-based patient lift, bed that converts to chair, powered sit-to-stand lift, gait/transfer belt, standing pole, or slide board. This section will address performance of the task using a ceiling-mounted patient lift.

View Video 2.1: Transferring a Patient from Bed to Chair Using a Ceiling Lift

### Patient Abilities

- Cannot bear weight
- Either not cooperative or has no upper-extremity strength

## Resources Required

A ceiling-mounted patient lift is mounted on tracks above the patient's bed. Some systems allow the patient to be moved throughout the room and into the bathroom, depending on the track layout. Allowing for the length of track, others may permit movement from the bed to a chair or from a chair to a chair. Each system has a different weight limit. Ceiling-mounted patient lift systems have several types of slings that are designed for different purposes, including simple transfers, toileting, and showering. Some slings are disposable (appropriate when infection control is paramount); others must be laundered between patients. Slings are not interchangeable among manufacturers. Major advantages of ceiling-mounted patient lifts over floor-based patient lifts include:

1. Ceiling-mounted patient lifts are conveniently available to caregivers. (Since they are positioned over the bed, one does not need to go find the lift and bring it to the bedside.)
2. The caregiver does not need to work around the base of the lift while performing tasks.
3. Ceiling lifts are quicker to use and do not require additional storage space. Although all have motors to lift or reposition the patient, some also use motors to transport patients along the tracks (power traversing); others depend on the caregiver to manually push/pull the patient along the tracks.
  - Ceiling-mounted patient lift with seated sling
  - One caregiver (two caregivers needed if patient is uncooperative)

## Technique 2-1

1. Follow *General Directions for All Tasks*.
2. Depending on start and end destinations, position the wheelchair, bedside chair, or commode chair next to the bed or position the wheelchair next to the toilet.
3. Select the appropriate sling for the patient. Factors to consider include medical conditions (e.g. spinal fracture, knee or hip injuries, and contractures), purpose of transfer (e.g. toileting, repositioning, bathing, or transporting), patient size, and infection control (disposable vs. reusable).
4. Follow manufacturer's directions for applying the sling. Proper sling positioning is critical for patient safety, dignity and comfort.
5. Attach sling to motor and activate to raise the patient off the bed's surface.
6. Use manual or powered traverse to reposition patient over the chair or toilet, then lower the patient until safe and comfortable contact is made.
7. Depending on the sling design, patient skin integrity, length of time patient will be in the chair or on the toilet, facility policy, manufacturer's recommendations, and the possible need for repositioning—consider leaving the sling in position for a brief period (less than an hour). However, if prolonged contact with the sling material appears likely to compromise skin integrity, remove the sling and keep it nearby for the return transfer.

## Transferring a Patient from Bed to Chair, Chair to Toilet, or Chair to Chair, Using Floor-Based Patient Lift

### Description of Task and Associated Risks

To assist patients to maintain or recover health through positioning them in a seated position, to help them use the toilet, or to transport them to another area, the caregiver must transfer patients from bed to chair (or the reverse). Transferring patients from bed to chair involves the caregiver-risk factors of lifting heavy loads, twisting, awkward postures and frequency. Patients face the risk of falls or skin shearing.

View Video 2.2: Transferring from Bed to Chair Using a Floor-Based Patient Lift

Refer to Algorithm 1 (Appendix A). The method required depends on the results of the patient assessment. For patients who are unable to bear weight fully, variations include the use of one of the following: ceiling-mounted patient lift, floor-based patient lift, bed that can be profiled to provide a seated position for the patient, powered sit-to-stand lift, gait/transfer belt, standing pole, or slide board. This section will address performance of the task using a floor-based patient lift.

### Patient Abilities

- Cannot bear weight
- Either not cooperative or has no upper-extremity strength

### Resources Required

Floor-based patient lifts can be moved from room to room. The benefit of this type of patient lift is that it can access the patient in any location, provided there is enough space. Using this type of equipment to lift and transfer patients eliminates the need for caregivers to manually lift. The lift should not be used to transport patients over long distances. Lifts normally feature adjustable leg supports to allow positioning around wheelchairs and special-needs chairs and under most beds. Most lifts have the ability to lift from the floor. The weight limits of the lifts are variable and posted on the lift. Disadvantages include the push/pull forces required to move the lift with the suspended patient to the desired location, potential inconvenient storage far from the patients bed, the need for floor space to accommodate the legs of the lift, and sometimes limited functionality.

- Floor-based patient lift
- One caregiver (two caregivers needed if patient is uncooperative)

### Technique 2-2

1. Follow *General Directions for All Tasks*.
2. Depending on start and end destinations, position the wheelchair, bedside chair, or commode chair next to bed or position the wheelchair next to the toilet.

3. Select the appropriate sling for the patient (Department of Veterans Affairs [VHA] VISN 8 Patient Safety Center of Inquiry, n.d.). Factors to consider include medical conditions (e.g. spinal fracture, knee or hip injuries, and contractures), purpose of transfer (e.g. toileting, repositioning, bathing, and transporting), patient size, and infection control (disposable vs. reusable).
4. Follow manufacturer's directions for applying sling. Proper sling positioning is critical for patient safety, dignity, and comfort. Technique to apply sling is usually rolling the patient from side to side. The patient should be positioned supine after sling is inserted underneath him or her.
5. Do not lock the lift's brakes when lifting the patient. The unlocked wheels free the lift to "creep" and maintain the lift's natural center of gravity.
6. Move the lift so that the open end of the base is under the side of the bed or around the base of the chair or commode.
7. Attach loops/clips to lift.

## Helpful Hint

Ensure the attachment bar is lowered sufficiently to avoid pulling on or lifting the sling during attachment to the lift.

When transferring the patient consider the position in which you want to transfer him or her; e.g. sitting, semi-recumbent, or supine, and ensure you choose the correct sling and points of attachment to achieve this. If using a sling with loops to achieve a sitting transfer position, use shorter loops at the shoulder and longer at the hip. Always refer to manufacturer's instructions.

8. Instruct patient to cross his or her arms over the chest to ensure the arms remain inside the sling. Operate the controls; raise the patient from the bed to the point of 2–4 inches of clearance from the bed surface. Ensure that the patient is comfortable and that the sling is interfacing with the lift properly.
9. Once the patient is lifted, turn him or her toward the mast (center pole) of the lift. Move the patient to the designated area. If required to ease transport of the lift, adjust its legs.
10. Position the lift directly in front of the chair/toilet, as close as possible. The legs of the lift may need to be adjusted to fit around the chair. Ensure brakes are applied on the wheelchair or commode chair.
11. The first caregiver should maintain eye contact with the patient and ensure a clear view when repositioning the patient, operating the lift controls, and lowering the patient on to the wheelchair or chair. Ensure the patient is facing the mast and not bumping his or her knees. The second caregiver should stand behind the wheelchair or chair to assist in guiding the patient into position.
12. Check manufacturer's recommendations regarding brake application.
13. Lift or lower the patient. When lowering the patient into a chair/toilet, the chair may tip slightly backwards as the patient is lowered; however, this will correct when the patient comes close to the seat pan of the chair. Avoid pulling on the sling.

## Helpful Hint

Depending on the sling design, patient skin integrity, length of time patient will be in the chair/toilet, facility policy, manufacturer's recommendations, and the possible need for repositioning - consider leaving the sling in position for a brief period (less than an hour). However, if prolonged contact with the sling material appears likely to compromise skin integrity, remove the sling and keep nearby for the return transfer.

14. Ensure the boom of the lift (the part of the lift that connects the spreader or attachment bar to the mast of the lift) moves slowly away from the patient only after his/her buttocks are in the seat. If the lift is pulled away too soon, the patient will be in a slumped sitting position. If the patient's position is not appropriate, simply raise him/her. Reposition the lift or chair and lower. Do not manually reposition the patient.
15. Detach the sling from the lift. Gently remove the sling from under the patient. Avoid using a stooped posture to remove the sling. Avoid pulling the sling roughly against the patient's skin.
16. To transfer the patient back to the bed or chair, reverse the steps.

## Transferring a Patient from Bed to Chair, Using a Bed that Converts to a Chair

### Description of Task and Associated Risks

To assist patients to maintain or recover health through positioning them in a seated position, to help them use the toilet, or to transport them to another area, the caregiver must transfer patients from bed to a chair (or the reverse). Transferring patients from bed to chair involves the caregiver-risk factors of lifting heavy loads, twisting, awkward postures, and frequency. Patients face the risk of falls or skin shearing.

View Video 2.3: Chairing the Patient, Using Bed Feature

Refer to Algorithm 1 (Appendix A). The method required depends on the results of the patient assessment. For patients who are unable to bear weight fully, variations include the use of one of the following: ceiling-mounted patient lift, floor-based patient lift, bed that converts to chair, powered sit-to-stand lift, gait/transfer belt, standing pole, or slide board. This section will address performance of the task, using a bed with a feature that allows it to be profiled, forming a chair position.

### Patient Abilities

- Cannot bear weight
- Either not cooperative or has no upper-extremity strength

## Resources Required

Some beds have the capability to be profiled into a chair position, also known as the cardiac chair position. This type of bed feature assists the patient in sitting upright; the mattress platform is adjusted (profiled) to assist the patient to bend his/her knees, as in a chair-seated position. When the patient requires the health benefits of a seated position, this feature can be used, thus eliminating the need to perform a high-risk patient-transfer task. This bed feature is particularly useful when the patient's tolerance for sitting in a chair is limited (e.g., 10–15 minutes) due to pain, fatigue, illness, or disability.

- A powered bed with “chairing” feature
- One caregiver

## Technique 2-3

1. Follow *General Directions for All Tasks*.
2. Ensure the patient is positioned in the center of the bed.
3. Using the bed controls, activate the profiling action “chair bed” feature.
4. Assess the patient for comfort once the desired patient position is achieved.
5. Adjust pillows to provide stability and support for patients who cannot sit unsupported.

## Transferring a Patient from Bed to Chair, Chair to Toilet, or Chair to Chair, Using Sit-to-Stand Lift

### Description of Task and Associated Risks

To assist patients to maintain or recover health through positioning them in a seated position, to help them use the toilet, or to transport them to another area, the caregiver must transfer patients from bed to a chair (or the reverse). Transferring patients from bed to chair involves the caregiver-risk factors of lifting heavy loads, twisting, awkward postures, and frequency. Patients face the risk of falls or skin shearing.

Refer to Algorithm 1 (Appendix A). The method required depends on the results of the patient assessment. For patients who are unable to bear weight fully, variations include the use of one of the following: ceiling-mounted patient lift, floor-based patient lift, bed that converts to chair, gait/transfer belt, standing pole, slide board, or powered sit-to-stand lift. This section will address performance of the task using a sit-to-stand lift.

View Video 2.4: Transferring a Patient from Bed to Chair, Using a Sit-to-Stand Lift

### Patient Abilities

- Able to partially bear weight
- No hip instability
- Cooperative

## Resources Required

A sit-to-stand lift is mobile and battery powered. It can be transported readily and easily. It is designed to encourage patients to participate with the transfers, and it promotes a level of independence when transferring from bed to chair/wheelchair or toilet. The patient is attached to the lift with a sling and is then raised safely and comfortably by operating the controls. The sling used to support this transfer is chosen based on the level of support required by the patient and the task.

- Sit-to-stand lift
- Suitable size of sling (follow manufacturer's instructions to identify correct size)
- One caregiver

## Technique 2-4

1. Follow *General Directions for All Tasks*.
2. Assist the patient into a sitting position on the side of the bed, chair, or toilet.
3. Move the lift so that the open end of the base is under the side of the bed or around the base of the chair or commode. Since the patient stands on a platform, the locks must be on.

## Helpful Hint

Some beds are provided with mobilization handles that the patient may find useful for holding onto and pushing on and against when standing and, once standing, for support.

Adjust the height of the bed to assist the patient to stand from an optimum height.

If the transfer is in the toilet area, grab bars are often available for the patient to hold on to, for the patient to push on and against when standing, and for patient support when standing.

A standing pole is a device that can be used to help assist patients from sitting to standing, turn them (in standing position), and reposition them on the receiving surface. The aid features a handle that the patient holds and pulls against in order to raise him/herself from sitting to standing, as well as a small, lockable platform on which the patient stands during the transfer. The aid encourages independence and provides support during the transfer.

4. Choose the correct sling and size for the patient's needs. Place the harness/sling around the patient and attach to the lift, ensuring the sling is positioned according to the manufacturer's recommendation. The sling should be snug but need not be tight.

5. Place the patient's arms on the outside of the sling; encourage the patient to hold onto the handrails of the lift.
6. If possible, adjust the kneepad so that the top rests just below the bottom of the patella. The shins should rest into the kneepad. Ensure that the patient's feet are placed in the correct position on the footplate of the lift.
7. Instruct the patient to lean back slightly. If necessary, have him/her look up at you or put a hand on the patient's shoulder as a cue to lean back.
8. Operate the control to raise the patient to a comfortable position. Patients with greater ability to bear weight will be able to tolerate a full standing position. Patients with limited ability to bear weight may not tolerate a full standing position; therefore, adjust accordingly.
9. Adjust the lift legs as required and move the patient to the desired location.
10. Ensure that brakes are engaged on the bed, wheelchair, commode, or dependency chair into which the patient is being transferred. Position the patient to complete the transfer.
11. Lower the patient by pressing the "down" button on the hand-held remote control or on the main operation box on the lift itself. Continue to position the patient while lowering him or her into the receiving chair.
12. Detach sling straps, ensure that feet are off the footrest, move lift away, and remove sling. Provide appropriate support cushions to enable patient to sit supported.

## Transferring a Patient from Bed to Chair, Chair to Toilet, or Chair to Chair, Using a Gait Belt

### Description of Task and Associated Risks

To assist patients to maintain or recover health through positioning them in a seated position, to help them use the toilet, or to transport them to another area, the caregiver must transfer patients from bed to a chair (or the reverse). Transferring patients from bed to chair involves the caregiver-risk factors of lifting heavy loads, twisting, awkward postures, and frequency. Patients face the risk of falls or skin shearing.

Refer to Algorithm 1 (Appendix A). The method required depends on the results of the patient assessment. For patients who are unable to bear weight fully, variations include the use of one of the following: ceiling-mounted patient lift, floor-based patient lift, bed that converts to chair, gait/transfer belt, standing pole, slide board, or powered sit-to-stand lift. This section will address performance of the task using a gait belt.

### Patient Abilities

- Able to partially bear weight
- Able to position/reposition feet on floor
- Able to push down with arms and lean forward
- Able to achieve independent sitting balance
- Fully cooperative and able to follow instructions

## Resources Required

A gait belt is a safety device that can be used to help assist and guide a person from one position to another. The gait belt can also be useful to guide a person while walking. Positioning the belt around the patient's waist allows the caregiver to achieve a safer hold on the patient. It can also help decrease the chance of the caregiver hurting his/her back while assisting the patient (assuming it is used correctly, and caregivers consider their body posture and practice good body biomechanics when helping the patient transfer or walk). Although the gait belt provides a handle for the caregiver to hold, gait belts are not designed for lifting the weight of the patient. Always encourage the patient being transferred to assist as much as possible.

There are several kinds of gait belts available. Identify the appropriate size and design required by the patient and the task to be accomplished, taking into account the size and shape of the patient. Gait belts with handles are preferred over belts with no handles because they are easier to use and less stressful on the caregiver.

- Gait belt with handles
- One caregiver

## Technique 2-5

1. Follow *General Directions for All Tasks*.
2. Ensure the bed brakes are on to avoid unplanned movement.
3. Move the wheelchair near the bed or toilet (at 90°) without causing an obstruction.
4. Position the gait belt around the patient's waist, ensuring its locking mechanism is secure and comfortable for the patient.
5. Ask the patient to shuffle hips/buttocks forward enough to sit safely on the side of the bed, with feet placed flat on the floor (adjust height of bed as required). Patient's feet should be slightly apart, with one foot in front of the other (walk/stand position).
6. Ask patient to lean forward from the hips.
7. Patient's hands (if possible) should be positioned at sides, ready to push down against the mattress and/or mobilization handles.
8. The caregiver should do one of the following:
  - a. *Stand* facing the patient and to the side requiring most support, bend his or her knees, and hold the handling belt with the nearest hand; the other hand supports the back of the patient's shoulder. The caregiver then coordinates the technique with verbal instructions ("**READY – STEADY – STAND**") and on "**STAND**," the patient can push down against the mattress/side of bed/mobilization handle/top of the legs while the caregiver stands upright, encouraging the patient forward into a standing position.

## Helpful Hint

A slight rocking action by the patient may assist in standing.

- b. *Sit* next to the patient, the nearest hand to the patient holding onto the gait belt behind the patient, the caregiver's other hand positioned across the nearest shoulder joint of the patient. (Always consider the maximum safe weight limit of bed.) The caregiver then coordinates the technique with verbal instructions ("**READY – STEADY – STAND**") and on "**STAND**," the patient can push down against the mattress/side of bed/mobilization handle/top of the legs while the caregiver transfers from sitting to standing position, encouraging the patient forward into a standing position.
  - c. Raise the height of the bed with the patient sitting on the edge of the bed to elevate the patient to a standing position. Ensure he/she is holding on to the mobilization handle or bed safety side rail as the bed is raised.
9. For the options above, the caregiver should transfer his or her weight from one foot to the other during the technique, keeping the back straight, and bending at the hip and knee, using his or her weight and body movement to retain a good posture.

Note: If the patient has suffered a cerebral vascular accident (CVA) and has one weaker side of the body that needs support, the caregiver may consider using standing aids (see below), which reduce the chance of the patient's foot sliding during the transfer. While maintaining contact with the patient by holding the gait belt, guide the patient away from the bed and turn him or her until facing away from the wheelchair.

10. Move the wheelchair forward or have the patient step back until the front edge of the chair is in contact with the back of the patient's knees.
11. Ensure wheelchair brakes are on.
12. Encourage the patient to reach backwards to feel/hold the arms of the wheelchair.
13. Make the patient sit down, with the caregiver bending his or her knees/hips while guiding patient onto the chair.
14. Remove the gait belt.

## Transferring a Patient from Bed to Chair, Chair to Toilet, or Chair to Chair, Using Seated Sliding Board

### Description of Task and Associated Risks

To assist patients to maintain or recover health through positioning them in a seated position, to help them use the toilet, or to transport them to another area, the caregiver must transfer patients from bed to chair (or the reverse). Transferring patients from bed to chair involves the caregiver-risk factors of lifting heavy loads, twisting, awkward postures, and frequency. Patients face the risk of falls or skin shearing.

Refer to Algorithm 1 (Appendix A). The method required depends on the results of the patient assessment. For patients who are unable to bear weight fully, variations include the use of one of the following: ceiling-mounted patient lift, floor-based patient lift, bed that converts to chair, powered sit-to-stand lift, gait/transfer belt, standing pole, or slide board. This section will address performance of the task using a seated sliding board.

## Patient Abilities

- Unable to bear weight on lower extremities
- Stable trunk/sitting balance
- Ability to flex at hips and knees beyond 90°
- Good use of arms

## Resources Required

A slide board is a narrow board with a smooth surface acting as a bridge between transfer surfaces. Some patients can use one to slide across from one sitting surface to the next. Slide boards can be useful to promote independence.

- Seated sliding board
- Wheelchair with removable arms
- One caregiver if standby assistance is needed for safety

## Technique 2-6

1. Follow *General Directions for All Tasks*.
2. Position wheelchair at 90° to bed/toilet; for bed transfers, adjust height of bed so it is matched with height of wheelchair. Remove wheelchair arm nearest to the bed/toilet.
3. Request patient to transfer weight to position the slide board to bridge gap between the transfer surfaces (refer to manufacturer's instructions on board position); patient to position the board if able.
4. Encourage the patient to bear weight through his or her arms and slide across the board to the receiving surface; this can be completed in small stages. Encourage the patient to move feet (if functionally able) and use upper limbs to gain sideways movement and facilitate the slide. To assist the patient, face the patient, bend knees, and guide the patient through the transfer, moving torso and feet to avoid twisting. Stand by to assist as needed.

## Lateral Transfer to/from Bed to Stretcher/Trolley

### Description of Task and Associated Risks

Among the most common tasks for caregivers is transferring patients between parallel surfaces; to another; for example, to transfer a patient from a bed to a stretcher in a supine position. Musculoskeletal risks to the caregiver include use of force to push/pull, twisting, awkward postures (from leaning across one of the surfaces), and frequency. Patients are at risk of falls, skin shearing, twisting, and dislodging of medical devices, dressings, or casts.

View Video 2.5: Lateral Transfer to/from Bed Using Sliders

Refer to Appendix A, Algorithm 2. For all but independent patients, this task requires assistive devices.

Factors determining the number of caregivers are patient weight and ability to assist, with three caregivers needed for those over 200 pounds who are unable to assist. Patients may have clinical conditions that require additional caregivers to complete the lift. Examples of such conditions are a leg cast, neck immobilization, central lines, or drainage tubes. Since there are subtle variations in how these devices are used, follow the manufacturer's recommendations for safe use of equipment.

FRDs, also known as sliding sheets, come in several shapes and sizes and are made from different materials with various coatings. Most of the FRDs are nylon based. Their intent and purpose are to reduce the forces caused by friction when repositioning or transferring a patient, thus reducing the exertion needs of the nurse and preventing injuries. They are manufactured as either tubes or flat sheets (most often used in pairs). Some styles incorporate handles or long straps designed to avoid awkward stretching by caregivers across the transfer surfaces when pulling the patient during the lateral transfer.

### Patient Abilities

- Partially or not able to assist

### Resources Needed

- FRDs
- Lateral transfer board
- One–three or more caregivers, depending on patient's weight, ability to assist, and complicated clinical conditions.

### Technique 2-7

1. Follow *General Directions for All Tasks*.
2. Position bed flat (if patient is able to tolerate).
3. Place the FRDs under the patient by rolling the patient from side to side.
4. Place the stretcher and bed side by side. Apply brakes. Ensure that the surface you are transferring to is at the same height as or slightly lower than the starting surface.
5. One caregiver should be positioned at the side of the patient's bed, between the patient's shoulder and hip, the second and third should be positioned at the side of the second transfer surface; between the shoulder and hip and hip lower leg respectively. The caregiver(s) nearest the patient push the patient towards the receiving surface, those positioned opposite pull. Additional caregiver(s) maybe required depending on patient size/weight and ability to cooperate.
6. Position feet in a walking stance. If pushing the patient, shift weight to the front foot during the maneuver. If pulling the patient, shift weight to the rear foot during the maneuver.
7. On a planned count, transfer the patient. Reduce the force exerted and the speed of the transfer because the use of an FRD can significantly reduce friction.

## Repositioning in Bed Using FRDs

### Description of Task and Associated Risks

Caregivers must reposition patients in bed for a number of reasons, including good nursing practice (to promote circulation and prevent pressure ulcers), patient comfort, respiratory assistance and procedures. Although technology exists to prevent patients from sliding down in bed through the use of specialized beds or nonslip linens, it is not widely available. Risk factors for caregivers include task frequency, push/pull forces, awkward postures, and lifting heavy loads.

View Video 2.6: Repositioning in Bed Using Friction Reducing Device

Refer to Algorithm 4 (Appendix A). This algorithm provides various methods to reposition the patient in bed using equipment, such as FRDs or floor-based or ceiling-mounted patient lifts, depending on patient abilities. The methods of choice have many patient variables, including size, weight, and the number of caregivers available to assist. In addition, the caregiver must consider

the patient's pain, level of fatigue, and ability to cooperate. There are several tips included in the algorithm to assist the caregivers. The caregiver must also ensure that other key factors are being addressed such as the bed height, body postures, and communication among all participants during the maneuvers. When patients can assist, coach them to use the side rails and overhead repositioning bars.

### Patient Abilities

- Partially able to assist

### Resources Needed

- One or two FRDs, depending on patient's ability to assist
- Pillows (one–three) for maintaining the patient in side-lying or tilted positions
- One–three caregivers for a patient  $\leq 200$  pounds or three or more caregivers if patient is  $>200$  pounds or uncooperative

### Technique 2-8

1. Follow *General Directions for All Tasks*.
  - Position bed flat or, to move patient up in bed, position with head slightly down (if patient is able to tolerate).
2. Ask or assist patient to roll from side to side to place the FRDs underneath patient's head, shoulders, back, and legs.
3. If patient is to be repositioned up in bed, complete the following steps:
  - a. Ask or assist patient to roll onto back.
  - b. Ask patient to bend the knees and position feet flat on mattress; then tuck chin to chest.
  - c. Instruct patient to push into the feet, sliding him/herself up in bed. Provide support for shins if necessary to maximize effort in moving him/herself.

- d. Observe the patient's movement up in the bed. Repeat procedure until patient has reached the desired position in bed.
  - e. If patient cannot hold legs in position, the caregiver may provide support. The caregiver supports/holds shins in place during maneuver.
  - f. If patient needs more assistance than verbal cuing, position caregivers on each side of the bed. Each caregiver grips (palms up, with wrist rotation neutral if possible) the handles or edge of the uppermost FRD.
  - g. With back straight and maintaining a wide base of support, flex knees and hips, and keep elbows close to sides.
  - h. One designated caregiver will lead the task; once all are agreed on the commands, the leader communicates the orders to co-ordinate the movement.
  - i. Shift weight onto the leg closest to the head of the bed while sliding the patient toward the head of the bed using the upper FRD. Remember, do not twist.
  - j. Remove FRDs by asking or assisting the patient to roll from side to side.
4. If patient is to be repositioned on the side, complete the following steps:
    - a. Caregiver "A" (facing the direction the patient will face) will pull slightly up and toward self on the FRDs to turn the patient onto his or her side.
    - b. Caregiver "B" will assist by placing one hand on the patient's shoulder and one on the hip. "B" will push slightly, moving the patient away.
    - c. Caregiver "B" will hold the patient on his or her side by taking the FRD under the raised side of the patient, "A" may then insert pillows behind the patient's back to help support him/her in the required position.
    - d. Remove the FRD from under the patient by tucking the FRD under itself and withdrawing diagonally to reduce the potential for the FRD to pull against the patient's skin.

## Helpful Hint

To move the patient up in bed, position the bed slightly head down (if patient is able to tolerate).

## Repositioning in Bed, Using Ceiling-Mounted or Floor-Based Patient Lift

### Description of Task and Associated Risks

Caregivers must reposition patients in bed for a number of reasons, including good nursing practice (to promote circulation and prevent pressure ulcers), patient comfort, respiratory assistance, and procedures. Although technology exists to prevent patients from sliding down in bed through the use of specialized beds or nonslip linens, it is not widely available. Risk factors for caregivers include task frequency, push/pull forces, awkward postures, and lifting heavy loads.

View Video 2.7: Repositioning in Bed Using Friction Reducing Device (Partially Dependent Patient)

Refer to Algorithm 4 (Appendix A). This algorithm provides various methods to reposition the patient in bed using equipment, such as friction-reducing devices or full-body sling lift, depending on patient abilities. The methods of choice have many patient variables, including size, weight, and the number of caregivers available to assist. In addition, the caregiver must consider the patient's pain, level of fatigue, and ability to cooperate. There are several tips included in the algorithm to assist the caregivers. The caregiver must also

View Video 2.8: Repositioning in Bed Using a Ceiling Lift

ensure that other key factors are being addressed, such as the bed height, body postures, and communication among all participants during the maneuvers. When patients can assist, coach them to use the side rails and overhead repositioning bars.

### Patient Abilities

- Unable to assist

### Resources Required

- Ceiling-mounted or floor-based patient lift (Note: Not all floor-based patient lifts are designed to use the sling required for this task.)
- Supine total body sling, hammock sling, or repositioning sling
- Two or more caregivers
- Pillows to maintain patient in side-lying position as required

The ceiling-mounted patient lift and repositioning sling are the preferred equipment combination for this task. A floor-based patient lift can be used but does not interface as well at the bedside for this task. The ceiling-mounted patient lift and rail system minimizes exertion.

### Technique 2-9

1. Follow *General Directions for All Tasks*.
2. Lower the head of the bed flat is the patient can tolerate.
3. Apply sling using side-to-side rolling technique. Place the repositioning sling under the patient starting at the top of the head. Some slings are designed to provide extra length; any excess should be at the foot of the bed. If a sling is already in place, assess if its current position is appropriate for use.
4. Ensure a pillow is positioned under the patient's head and shoulders. Position sling attachment bar above and lengthways to the patient.
5. Attach sling to the lift. Ensure the attachment points are attached evenly and equally distributed at each side of the attachment bar. The attachment points are normally at the head, shoulders, hips and lower legs.

## Helpful Hint

After a few bed repositions, the repositioning sling may need to be relocated under the patient. The sling will also need replacing when soiled. To replace the sling, it is recommended that the new sling is positioned on the bed while the patient is suspended in the lift in the original sling. Take care when lowering the patient to avoid contamination of the new clean sling.

6. Operating the controls, raise the patient off the bed 2–3 inches. Assess patient tolerance, comfort, and weight distribution in the sling.
7. Slide the ceiling-mounted patient lift along, towards the head of the bed; gently guide the patient's body, lightly pushing against the sling to the desired position. (Some lifts feature powered traverse.)
8. If the patient is to be left in a side-lying position, move the patient along the track to the side of the bed (or move the bed if only a single track system in use)
9. Using the controls, lower the patient on to the bed.
10. Detach straps from one side of the attachment bar only – consider the side to which you are going to turn the patient; maintain the bar lengthways to the patient.
11. Using the controls, raise the bar slightly, using the up button; this will turn the patient onto the side.
12. Position pillows for patient comfort and to maintain position.
13. Lower bar/lift and remove remaining sling straps.
14. Determine whether sling can be left under patient, considering contraindications of skin breakdown and need for frequent assessment of skin tolerance.
15. Do not leave ceiling-mounted patient lift hanging over the patient.

## Reposition in Chair: Wheelchair and Dependency Chair

### Description of Task and Associated Risks

Patients may slide down in chairs, impairing their ability to breathe and causing strain on their musculoskeletal and circulatory systems. Caregivers must monitor patients to ensure they maintain healthful postures while seated; if they have slid down, caregivers must reposition them in the chair. Risks for caregivers include lifting heavy loads, awkward postures, and frequency. Risks for patients include skin shearing when the sling is removed and being repositioned in an uncomfortable posture.

[View Video 2.9 Patient Repositioning in Dependency Chair](#)

Refer to Algorithm 5 (Appendix A). The type of assistance and equipment needed varies with the patient's ability to assist, bear weight, and cooperate. The caregiver should consider why the patient slipped down and take steps

to avoid sliding in the future. For example, some FRDs have one-way textured surfaces that prevent sliding down.

Reclining chairs allow the caregiver to place the patient in a flat position to ease repositioning and then to convert the device into a “chair”. There are many types and designs of reclining chairs available; consultation with a therapist may be required to identify a suitable option. The appropriate size and design required by the patient should be identified through assessment and trial and also considering other factors, such as size, shape, weight, condition, and capabilities.

### Patient Abilities

- Cannot bear weight
- May or may not be cooperative

### Resources Required

- Appropriate Chair
- Floor-based patient lift
- Two or more caregivers (An additional caregiver may be needed if the patient is uncooperative.)
- Optional: one-way FRD (prevents sliding down)

### Technique 2-10

1. Follow *General Directions for All Tasks*.
2. If the chair has brakes, ensure they are on to avoid unplanned movement.
3. Position the sling under/behind the patient (referring to manufacturer’s instructions).
4. Position the legs/base of the lift under/around the chair (depending on the size of the chair and lift) and lower spreader bar sufficiently to allow easy attachment of the sling to the lift to avoid pulling against the patient when fitting.
5. Attach sling to the spreader bar securely.
6. Operate the lift’s control to raise the patient up from the chair. Depending on the size of the patient and lifting height of the lift, it may be necessary to lower the chair (if possible) to ensure clearance beneath the patient and seat of the chair.
7. Position the patient in an upright sitting position. (Some lifts allow adjustment of the patient’s sitting position, by repositioning the spreader bar – if available use this feature to ensure the patient is in an upright sitting position in the sling.)
8. Adjust the profile of the chair if possible/as required (e.g., from slightly reclining to upright).
9. Consider positioning a one-way FRD on the seat of the chair (checking manufacturer’s instructions on use and positioning).
10. Maneuver the lift so patient can be lowered into correct position on the chair.

11. Position the patient above the chair.
12. Lower the patient onto the chair. It may be useful for one of the caregivers to stand behind/to the side of the chair to guide the patient down onto the chair; the caregiver should avoid pulling on the sling and lifting the weight of the patient when repositioning.
13. Lower sufficiently to allow easy removal of the sling but avoiding collision of the spreader bar and patient.
14. Move the lift away to provide enough room to remove the sling safely from behind/beneath the patient.
15. Remove the legs of the sling from beneath the patient. Encourage the patient to lift his or her legs in order to achieve this. Maintain a good posture when assisting with this task; consider kneeling on the floor to maintain good posture. Never pull the sling against the patient's skin.
16. Sit the patient forward to remove the sling. It may sometimes be appropriate to leave the sling behind the patient to avoid handling when refitting the sling to transfer the patient. Refer to the facility's policy regarding leaving slings in place, as well as the manufacturer's instructions.

## Transferring a Patient who has Fallen

### Description of Task and Associated Risks

Despite caregiver surveillance and facility safety measures, a patient can fall to the floor. If a caregiver is assisting a patient who falls during ambulation, the caregiver is often injured by reflexively grabbing the falling patient, resulting in excessive forces on the musculoskeletal system. Other risks to caregivers include awkward postures and lifting heavy loads. Risks to fallen patients include musculoskeletal and neurological injuries from ineffective or outdated (manual) rescue attempts.

Refer to Algorithm 6 (Appendix A). This algorithm gives some suggestions to assist patients up off the floor. It is very important for the caregiver properly to assess the patient while the patient is on the floor and not to rush while deciding the appropriate technique to use. Often it takes several minutes to determine the extent of the patient's injuries and capabilities. The patient is safe on the floor. The caregiver should ensure the patient is offered comfort such as a pillow and blanket while appropriate planning occurs.

[View Video 2.10: Rescue Fall Patient off Floor with Air-Assisted Device](#)

[View Video 2.11: Rescue Fall Patient off Floor with Floor-Based Lift](#)

### Patient Abilities

- Uninjured but unable to assist
- If patient is injured, seek medical advice before attempting to rescue

## Resources Required

- Ceiling-mounted or floor-based patient lift capable of reaching the floor OR air-assisted vertical/lateral transfer device (Note: For use of the ceiling-mounted patient lift, the ceiling tracks need to traverse to the exact location of the patient.)
- Two caregivers (additional caregiver needed if patient is uncooperative)

## Technique 2-11

1. Follow *General Directions for All Tasks*.
2. Provide patient comfort and assurance while patient is on the floor; offer pillow and blanket. Position on back, if tolerated.
3. Place the appropriate sling or air-assisted vertical transfer device mattress (with inflatable ports at the feet) under the patient through side-to-side rolling. If using air-assisted lateral transfer device, place sheet or incontinence pads between patient's skin and air mattress. Close safety straps.
4. Approach the patient with the lift base of the support open. Lower the lifting arm to floor level. If using air-assisted vertical transfer device, attach flexible hose end to mattress parallel to foot end and snap in place.
5. Move the patient's legs or head as required to accommodate lift access.
6. Attach the sling to the spreader bar or attach the hose to the air compressor and turn it on to inflate device to desired level for transfer.
7. Raise the patient while constantly observing tolerance, comfort, sling fit, and safety. If concerns arise, lower the patient to the ground immediately.
8. Position patient in chair, stretcher, or bed using the floor-based patient lift or transfer to stretcher or bed using the air-assisted lateral transfer device.
9. Deflate air-assisted device (if used) and then remove either sling or device by rolling patient.

## Case Studies

### Case Study 2-1

The caregiver is caring for Ms. G, a 78-year-old woman who was transferred from a nursing home to the hospital last night for an emergency appendectomy. The patient's admission notes document the presence of a sacral pressure ulcer. She had a stroke several years ago, leading to right-side paralysis. Owing to the post-operative pain medication she is receiving, she has periods of somnolence. When she is awake, she is cooperative and responsive. The nursing home notes list her height as 5' 4" and her weight as 140 lbs. The physician has ordered her to get out of bed and sit in a chair for 20 minutes three times a day, beginning on the morning that she is assigned to you as a patient. She is in a two-bed room; the other patient has accumulated a large amount of floor-based equipment located between the two beds. The other patient has a large extended family visiting that morning.

### Discussion Questions

1. What is the *most important* assessment factor in determining Ms. G's need for assistance in patient handling? Explain your answer.

2. Practice explaining the procedure to the patient with a colleague. Alternately pretend you are Ms. G, critique the clarity and length of each other's explanations.
3. What types of equipment are appropriate for completing this patient-handling task?
4. If the equipment you need is in use for another patient at the moment, what is the best action for you to take?
5. Before beginning the task, what steps would you take based on the environmental assessment?

## Post-Test Questions

- 2-1. What is the first step when preparing to handle or move a patient?
  - a. Obtain lifting equipment.
  - b. Assess the patient.
  - c. Select the correct algorithm.
  - d. Enlisting the help of peers.
- 2-2. What is the most important factor in deciding what technique to use when transferring a patient from bed to wheelchair?
  - a. Number of staff available to help
  - b. Whether the bed is height adjustable
  - c. Patient abilities
  - d. Strength of caregiver
- 2-3. A 145-pound patient, although cooperative, cannot bear weight and has limited upper-extremity strength. If you have to transfer this patient from a bed to a wheelchair, which of these statements is correct?
  - a. Three caregivers using good body mechanics will allow for safe manual handling.
  - b. A seated transfer aid is appropriate.
  - c. Use a gait belt and two caregivers.
  - d. Use a floor-based patient lift and two caregivers.
- 2-4. Mrs. Smith was independent for daily activities. As she was walking to the bathroom, she slipped on some spilled water on the floor and fell to the ground. The nurse found her lying on the floor, trying to get up. The patient is asking the nurse to help pull her up to a standing position. Before assisting the patient up off the floor, the nurse should:
  - a. Call for assistance
  - b. Cover the patient with a blanket and go for help
  - c. Assess the patient for injury and determine the best method to provide assistance
  - d. Offer a helping hand and gently pull the patient up off the floor
- 2-5. Mrs. Smith can move all her limbs and has a good range of motion but is complaining of a sore shoulder. The nurse should:
  - a. Provide a chair and verbal cues for Mrs. Smith to assist herself off the floor.
  - b. Use a floor-based patient lift to assist her off the floor.
  - c. Call for three more staff members to manually assist her off the floor.
  - d. Request a portable X-ray to examine her shoulder.

- 2-6. Mr. Johnson weighs 225 pounds. He is partially able to assist himself. He has slipped down in bed and needs to be repositioned up and turned on his left side. The nurse should do the following:
- Use four caregivers to reposition the patient with draw sheet or incontinence pad.
  - Without additional caregivers, reposition patient in bed using a friction-reducing device (FRD) and ceiling-mounted patient lift.
  - Use two caregivers to reposition the patient using a floor-based patient lift.
  - Use three caregivers to reposition the patient using an FRD.

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