

SAFE PATIENT HANDLING STUDENT WORKBOOK GUIDE



Session 2: (5 hours)

Facility and Equipment Assessments and Hands-on Equipment Training

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SESSION 2

Participants will learn how to determine:

- Patient handling equipment needs at their facilities
- A process for making good equipment purchases
- Information on how to assess their facilities with respect to accommodating equipment (e.g., length of hallways, no. and location of electrical outlets, storage/recharge areas, space under beds, size of bathrooms) will be provided

Participants will learn:

- How to use an assessment tool that analyzes the patient/resident census at their facility (no. of independent, extensive assist, limited assist, and independent patients/residents)
- The outcome of this activity will allow the participants to be able to compare their facility equipment inventory with what is actually needed to implement an effective SPH program
- The procedures for using equipment, as well as hands-on demonstration on equipment use (sit-to-stand lifts/slings; full mechanical lifts/slings; ceiling lifts/slings; slip sheets/air mats)

Participants will engage in exercises using:

- Facility assessment forms
- Patient/resident census forms and care plans
- Hands-on practice with the equipment and devices for all of the trainees

<u>Activities</u>	<u>Page #</u>
Group Activity 1: How Much and What Kind of Equipment Do We Need?	3
Group Activity 2: Facility Environmental Assessment—Equipment & Your Work Environment	14

GROUP ACTIVITY 1: How Much and What Kind of Equipment
Do We Need?

Purpose

To use equipment inventory forms and patient/resident census to determine how much equipment and other assistive devices that are needed at our (fictitious) “Sunrise Valley” nursing home.

“Sunrise Valley” nursing home is a 126-bed facility. There are three units with 42 single resident rooms (21 on each side of the hallway) per unit.

This activity has four tasks.

TASK ONE

Before deciding how much and what kind of equipment and other assistive devices that the Sunrise Valley needs, your Safe Resident Handling Ergo Team will need to determine what kind and how many mechanical lifts and other assistive devices already exist and if they are being used. An **Equipment Use Inventory survey** is one way to get this information

Review: **1. Equipment Use Inventory Survey** (*pages 5 & 6*)

Question: Who should receive copies of the survey and why?

Equipment Use Inventory

Directions: Answer the following questions related to equipment handling/transport in your department or that you may have access to through another department.

Department:		Employee Name:			RN/CNA	Shift: Day Night Swing	
Resident Handling Device	Do you have this equipment in your dept? Y or N If Y – what's the name or brand of equipment, e.g. 'Omega lift, Hovermat, etc)	If Yes How many on unit?	What is the weight limit of the equipment if applicable?	How often do you use it? 4= all of the time 3=most of the time 2=sometimes 1=rarely or never	Is this equipment in good working order? Y or N Comment:	If used rarely or never why?	Other Comments
1. Powered Floor Lift (Battery/electric power)							
2. Ceiling Lift							
3. Powered Sit to Stand Lift							
4. Air Mat for lateral supine transfers, e.g. Hovermat							
6. Roller mat							
7. Other types of Transfer mats or boards							

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8. White Slide board (supine position)							
9. Slippery sheets for repositioning							
10. Gait or transfer belt <i>Please note if with handles</i>							
11. Low-friction mattress covers							
12. Shower cart or gurney							
13. Shower or toilet chair (commode)							

Equipment Use Inventory							
Directions: Answer the following questions related to equipment handling/transport in your department or that you may have access to through another department.							
Department:		Employee Name:			RN/CNA	Shift: Day Night Swing	
Resident Handling Device	Do you have this equipment in your dept? Y or N If Y – what's the name or brand of equipment, e.g. 'Omega lift, Hovermat, etc)	If Yes How many on unit?	What is the weight limit of the equipment if applicable?	How often do you use it? 4= all of the time 3=most of the time 2=sometimes 1=rarely or never	Is this equipment in good working order? Y or N Comment:	If used rarely or never why?	Other Comments
14. Geri chair							
15. Wheel chair							
16. Other chairs that Residents use							
17. Adjustable height beds-List each make and model							
18. Other:							
18. Other:							
<i>Other equipment:</i>	<i>Please also note any specific issues or problems with this type of equipment</i>						

Equipment Use Inventory							
Directions: Answer the following questions related to equipment handling/transport in your department or that you may have access to through another department.							
Department:		Employee Name:			RN/CNA	Shift: Day Night Swing	
Resident Handling Device	Do you have this equipment in your dept? Y or N If Y – what's the name or brand of equipment, e.g. 'Omega lift, Hovermat, etc)	If Yes How many on unit?	What is the weight limit of the equipment if applicable?	How often do you use it? 4= all of the time 3=most of the time 2=sometimes 1=rarely or never	Is this equipment in good working order? Y or N Comment:	If used rarely or never why?	Other Comments
19. Carts - Medicine							
20. Carts - Laundry							
21. Carts - Food							
22. Carts – Other - Describe							
23. Gurneys/Stretchers List each make and model and if height adjustable							
24. IV /Med poles							
25. Other medical equipment							

Developed by Lvnda Enos. MS. RN. CPE.

TASK TWO

Your Team has distributed, collected and analyzed the Equipment Use Inventory Survey. You have tabulated the results. For purposes of this task, we are only going to look at four pieces of equipment and assistive devices: Full Mechanical Floor Lift (“Powered Floor Lift”), Sit to Stand Lift, Non-friction Sheets for repositioning and Beds.

Review: **2. Summary of Findings of Equipment Use Inventory Survey at “Sunrise Valley Nursing Home” Results.** * (page 8)

Question: **If you were working at “Sunrise Valley” do you think that you would have enough Full Mechanical Lifts in each unit to lift and transfer residents? Enough Sit/Stand Lifts?**

***Note:** for this exercise, the equipment we’ve inventoried is limited to Full Mechanical and Sit-to-Stand Lifts, Slip Sheets(non-friction sheets) and Beds. An actual inventory would include other equipment/devices referred to on the inventory checklist.

2. SUMMARY OF FINDINGS OF EQUIPMENT USE INVENTORY SURVEY AT “SUNRISE VALLEY” NURSING HOME

ASSISTIVE EQUIPMENT/DEVICES CURRENTLY IN EACH UNIT/USE	Unit One	Unit Two	Unit Three
Full Mechanical Lift (occasionally used)	1	1	1
Sit-to-Stand Lift	1 (near nurse’s station for all 3 units)		
Non-friction sheets/devices	5	5	3
	(all 3 units mostly reposition residents by pulling/pushing shoulders/trunk, bedding)		
Electric control beds	42	42	42

TASK THREE

To determine the kind and amount of equipment you need, you will need to have a *resident census* for each unit. Your census will tell you how capable the residents are in each unit in assisting the care workers with a lift, transfer or repositioning task. Capabilities can be grouped together so that residents fall into four major categories for lift/transfers.

Your census is based on the assessment by a licensed professional (OT, PT, LPN, RN) of each resident using a *Patient/Resident Assessment Tool*.

Review: **3. Safe Patient/Resident Handling Assessment Tool** (page 10)


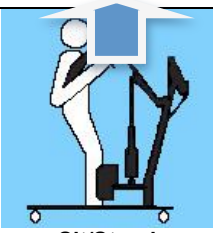



Review: **4. Resident Census at “Sunshine Valley” Nursing Home** (page 11)

Question: Using the Patient/Resident Assessment Tool, indicate what kind of equipment is needed for each level of patient capability (below):

PATIENT/RESIDENT DEPENDENCY AND LIFTS/ASSISTIVE DEVICES NEEDED

Patient/Resident Capabilities	Level of Dependency	Lift or Assistive Device Needed?
Patients/residents who are non-weight bearing; unable to balance on a bed; some are also non-cognitive.	<i>Total Dependence</i>	_____
Patients/residents who are partially capable of weight-bearing on one or both legs; can sit from supine position unassisted; all have fair to good upper body and hand strength.	<i>Extensive Assistance</i>	_____
Patients/residents who are full weight bearing and are able to ambulate with guidance or hands on cueing; others are partial weight bearing—can take a few steps and move feet. Are steady, cognitive & cooperative.	<i>Supervision/ Limited Assistance</i>	_____
Full weight bearing; steady; cognitive.	<i>Independent</i>	_____
Patients/residents who are unable to assist with lateral transfer or need repositioning in bed or reclining chair.	<i>Dependent for Repositioning</i>	_____

3. SAFE PATIENT/RESIDENT HANDLING ASSESSMENT TOOL

Lift Type	Patient/Resident Criteria	Contraindications	Sling Criteria	Staff
 Total Mechanical Lift	<ul style="list-style-type: none"> • Non weight bearing • Not able to sit/balance on edge of bed • Non weight bearing patient/resident needing repositioning in a non-reclining chair 		Use - Hygiene sling if patient/resident has: <ul style="list-style-type: none"> • Good upper body control • Cognitive • Able to assist • Transfer is for toileting/ access to perineal area. 	2 – 2+
			Use - *Hammock sling if patient/resident has: <ul style="list-style-type: none"> • Poor upper body control • Non cognitive • Unable to assist. 	2 – 2+
 Sit/Stand Mechanical Lift	<ul style="list-style-type: none"> • Partial weight bearing in one or both legs • Can hold on with one or both hands • Cooperative • Able to move supine to sit and be able to sit/balance on edge of bed • Partial weight bearing patient/resident needing repositioning in a non-reclining chair 	<ul style="list-style-type: none"> • Abdominal, chest or back surgery (if the area of surgery would be compromised resulting in harm to the patient/resident) • Spinal or pelvic fracture (if the fracture site would be compromised resulting in harm to the patient/resident) • Poor skin integrity in area of belt 	Use - Band Harness if patient/resident: <ul style="list-style-type: none"> • CAN bear weight continuously 	2 – 2+
			Use -TT Harness if patient/resident: <ul style="list-style-type: none"> • CANNOT bear weight continuously • Band sling is not large enough • If leg straps are needed 	2 – 2+
 Transfer/Gait Belt	<ul style="list-style-type: none"> • Full weight bearing and able to ambulate with guidance or hands on cueing • Partial weight bearing if they can take steps and move feet • Steady • Sound cognition • Cooperative 	<ul style="list-style-type: none"> • Abdominal, chest or back surgery (if the area of the surgery would be compromised resulting in harm to the patient/resident) • Spinal or pelvic fracture (if the fracture site would be comprised resulting in harm to the patient/resident) • Poor skin integrity in area of belt 	None	1 + another to handle medical equipment
 Non-Friction Device or Air Matt	<ul style="list-style-type: none"> • Bed Rest • Unable to assist with lateral transfer • Needs repositioning in bed or reclining chair 		None	Less than 200 lbs. – 2
				More than 200 lbs. – 3
 No Lift Device	<ul style="list-style-type: none"> • Full weight bearing bilaterally • Steady 		None	0 – 1

4. RESIDENT CENSUS AT “SUNSHINE VALLEY” NURSING HOME (by unit)

To determine if we needed more equipment, we got a census of our residents, noting their capabilities in assisting our staff in making transfers or repositioning. We also inventoried the mechanical assists and devices we have in each unit. Below is a summary of the census for each unit [residents have been grouped by their capabilities] and the kinds of assistive equipment and beds that we have.

RESIDENT CENSUS	Unit One	Unit Two	Unit Three
Residents who are non-weight bearing; unable to balance on a bed; some are also non-cognitive.	16	17	13
Residents who are partially capable of weight-bearing on one or both legs; can sit from supine position unassisted; all have fair to good upper body and hand strength.	14	12	15
Residents who are full weight bearing and are able to ambulate with guidance or hands on cueing; others are partial weight bearing—can take a few steps and move feet. Are steady, cognitive & cooperative.	7	10	9
Full weight bearing; steady; cognitive.	5	3	5
Residents who are unable to assist with lateral transfer or need repositioning in bed or reclining chair.	13	15	9

TASK FOUR

Determine the kind and amount of equipment and other assistive devices that's needed in each Unit to ensure the safety of direct care workers and residents.

To do this task, your Team needs to compare "Sunshine Valley's" resident *census* (which tells you the capabilities of the residents) with the kinds and amount of equipment that's recommended for each level of capability (*Total Dependence, Extensive Assistance, Supervision/Limited Assistance, Independent*).

Review: **5. Equipment per Patient/Resident of Need Guide** (page 13)

Question: Compare the equipment you currently have at "Sunshine Valley" (below) with the equipment you need (use the 5. Equipment per Patient/Resident of Need Guide – p. 13) based on your *resident census* (use 4. Resident Census at "Sunshine Valley" Nursing Home – p. 11). Put your answers in the [].

EQUIPMENT WE HAVE & ADDITIONAL EQUIPMENT NEEDED*

	Unit One	Unit Two	Unit Three
Full Mechanical Lift (electric powered)	1 []	1 []	1 []
Sit-to-Stand Lift (electric powered)	1 []	0 []	0 []
Non-friction sheets/devices	5 []	5 []	3 []
Electric control beds	42	42	42

5. EQUIPMENT PER PATIENT/RESIDENT OF NEED GUIDE
How much Equipment do we need?

Equipment type	Amount of equipment recommended
Floor lifts or full mechanical lifts	1 per 8 patients/residents of need on that unit
Sit to stand lifts	1 per 8 patients/resident of need on that unit
Gait belts with handles	1 per patient/resident of need, hands on assistants will require a gait belt
Non friction sheets & non friction devices, Slip Sheet, Phil-E-slide, Maxi-Slide & Surehands products	1 per 8-10 patients/residents of need <i>(used for lateral transfers, repositioning; reducing friction decreases the load and resistance)</i>
Hover Mat & Air Assisted devices	Look at what your need is and where you would use them
Ceiling Lifts & ceiling track systems	<i>Truly Zero-Lift; especially useful with fully dependent patients/residents. Useful in tub rooms, therapy gyms, patient/resident care areas, and rooms with specialty care like bariatric.</i>
Hygiene slings Universal slings Quick fit slings Hammock slings Sit-to-Stand slings Amputee slings Positioning slings Mesh slings Padded slings Full Body slings Bathing slings	Slings needs should be determined by patient/resident case load and needs
Electric control beds - (avoid awkward postures)	1 per patient/resident Beds have various sizes, styles, and functions. Bariatric beds have heavy reinforced hardware and framing.

Note: The equipment to patient ratio in these slides is used at Kaleida Health in Western New York at 9 hospitals and nursing homes. Their program resulted in an 80% reduction in patient related handling injuries. This chart is a good guide for determining the amount of equipment your Safe Patient Handling Ergo Team will want to recommend for your facility. The way caregivers organize their work assignments should be carefully considered when determining the quantity purchased. Patient lifting tasks are not evenly distributed throughout a 24-hr. period. Typically, there are peak periods where staff is competing for lifting devices. If your facility plans to eliminate manual lifting, a commitment to purchasing sufficient quantities of equipment will make this feasible.

GROUP ACTIVITY 2: Facility Environmental Assessment— Equipment & Your Work Environment

Purpose

If your facility needs more and new equipment before it is purchased, two things should be considered: 1) Have the stakeholders, especially the “end-users” (nurses, CNAs, patients, residents), have a chance to evaluate it? 2) Is there a good “fit” between the equipment and the physical space in which it will be used?

This Group Activity has one task.

TASK ONE

To get “*BUY IN*” from the stakeholders on the new equipment purchases, it is important that they have a chance to have the vendor(s) demonstrate the equipment and allow the stakeholders, especially “end users” such as nurses, CNAs, patients and residents participate in “hands-on” demonstrations.

Scenario: Your Safe Patient Handling Ergonomics Team has been assigned the task of setting up an “Equipment Day” at your facility. You will be responsible for planning the event including contacting a vendor, managerial, non-managerial frontline workers/direct care workers and other personnel from other departments at your facility.

Review: Information sheets **1—8** (pages 16-23)

Question: When planning the event, whose opinions about the equipment will you want to solicit and why?

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-

Question: What is some of the most important information you will want to collect and review before you recommend that the facility purchase a piece of equipment?

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-
-
-

Question: What physical features at your facility may make it difficult to select certain kinds of lifts (refer to information sheets **7 & 8** – pages 22-23). How might you overcome these obstacles?

-
-
-
-

1. BEFORE PURCHASING NEW EQUIPMENT. . .THINGS TO CONSIDER

- *Set Up An Equipment Day With a Reliable Equipment Vendor*
- *Distribute a Equipment Survey to the “End Users”*
- *Do a Unit Profile and Space/Maintenance/Storage Assessment*
- *Do a Facilities Design Assessment*
- *Collect Surveys and Evaluate the Equipment*

2. SETTING UP AN “EQUIPMENT DAY” WITH A RELIABLE VENDOR

The Equipment Day

Your SPH/Ergo Team should set up an equipment day for the Administration, Non Managerial Frontline Workers/Direct Care Workers, other staff (including housekeeping/laundry, infection control, maintenance/engineering, etc.) patients and residents. You should ask the vendor to bring equipment and devices to meet your needs as determined by your patient/resident census.

- ***Involve Frontline/Direct Care Workers.*** Your Equipment Day should involve all of your Frontline/Direct Care Workers from all 3 shifts. They should have a chance to see the equipment demonstrated and should have a chance to use the equipment themselves.
- ***Involve Other Staff.*** Staff from departments such as housekeeping/laundry, infection control, maintenance/engineering should have an opportunity to see the equipment. Laundry will have an interest in slings, their durability, and washing requirements. Housekeeping in the ease with which the equipment can be disinfected and wiped down. Maintenance/engineering in repair and installation.
- ***Involve Administration.*** Managerial, supervisory staff, and physicians should be present to assess the equipment and to observe reaction of the staff. It's also an opportunity to discuss with the vendor issues such as warranties, servicing and training.
- ***Reliable Vendor.*** Select a vendor from your area that has a good reputation at other facilities for providing good customer service, training, and a reliable product.

3. EQUIPMENT FUNCTIONALITY CHECKLIST

Name of Lift _____

- What is the life expectancy?
- What is the load capacity?
- What are the storage requirements?
- How does it fit into our facility?
- Does it fit into our bathroom?
- Will it fit at bedside?
- Will it fit under beds? Under X-ray tables?
- Will it pass through all the doors in our facility?
- Does it fit on elevators?
- Does it have an emergency shut-off switch?
- Can a healthcare worker maintain proper body mechanics using it?
- Will it move a patient/resident from a car?
- Are the capacity & load instructions listed on the equipment?
- What are the infection control procedures?

Maintenance

- How long does the battery charge last?
- What maintenance required by facility? By vendor?
- Who's responsible for upgrades and recalls?
- What's the procedure for replacing defective parts? How fast shipped?
- What's lifespan of the battery?
- Warranty limitations?

Slings

- How are the slings used?
- How often do they need to be replaced?
- Is it possible for the patient/resident to slip out of the sling?
- Are the slings interchangeable within the product line? (from ceiling lift to full mechanical or sit/stand lifts?)

Bariatric

- Does the vendor offer bariatric equipment? For sale? For rent?

Adapted from Veterans Administration. Patient Care Ergonomics Resource Guide.

4. VENDOR CHECKLIST

General Vendor Information

- How long has the company been in business in your state?
- How long has the representative worked with them?
- How many clients do they service in the state?
- How many customer service representatives do they have?
- What other health facilities have this equipment and what references can they provide on those institutions' experiences?

Vendor Customer Service

- What's the average response time for service?
- Will the company replace equipment if it's not functioning correctly? If so, what is the turnaround time?
- Does the vendor have a set of service standards?
- What is the vendor's response time to resolve a customer problem?
- Does the company do problem-solving follow-up if the equipment is not functional?
- Does the vendor have state representatives that can arrive and problem solve within a short period of time?
- How fast are replacement parts shipped?

Vendor Provided Training

- Does the vendor provide training for all shifts?
- Will the vendor return and train new staff periodically?
- Does the training include the use of all types of slings available for the equipment? For example: walking slings, disposable slings, supine slings, custom-made slings for amputees?
- Will the vendor provide orientation and training for doctors?
- Does the vendor have training videos?

Equipment Product Support

- What's the vendor's equipment evaluation period (trial period)?
- What's the warranty on the equipment?
- Will the vendor assist in assessing and matching patient types with equipment?

Veterans Administration. *Patient Care Resource Guide*.

5. PRODUCT FEATURE RATING SURVEY (HEALTH CARE WORKER)

Please examine the product very carefully and answer the following questions as they relate to this product ONLY. Please answer each question using a scale from 0 to 10, by circling the number that matches your impression, where 0 indicates a very poor design and 10 indicates a very well designed feature.

We encourage you to express any ideas you may have for improving the product design. Please make your comments alongside the appropriate feature rating and other comments at the bottom.

Health Care Worker Name: _____

Mechanical Lift or Other Device: _____

1. How would you rate your OVERALL COMFORT while using this product?

Very Poor 0 1 2 3 4 5 6 7 8 9 10 Very Good

2. What is your impression of this product's OVERALL EASE-OF-USE?

Very Poor 0 1 2 3 4 5 6 7 8 9 10 Very Good

3. How EFFECTIVE do you think this product will be in reducing INJURIES?

Very Poor 0 1 2 3 4 5 6 7 8 9 10 Very Good

4. How EFFICIENT do you feel this product will be in use of your TIME?

Very Poor 0 1 2 3 4 5 6 7 8 9 10 Very Good

5. How SAFE do you feel this product would be for the PATIENT?

Very Poor 0 1 2 3 4 5 6 7 8 9 10 Very Good

6. How COMPATABLE do you feel this product is with our BEDS, DOORS, ROOMS?

Very Poor 0 1 2 3 4 5 6 7 8 9 10 Very Good

Additional Comments:

Adapted from the Department of Veterans Affairs: Technology Solutions for Safe Patient Handling and Movement.

7. Unit Profile and Space/Maintenance/Storage Evaluation

1.	Directions: Describe Unit/wing, including # beds, room configurations (private, semi-private, 4-bed, etc.), and bathrooms:
<p># rooms private (1 bed) _____ # rooms with 2 beds _____ Other: _____</p> <p>Bathrooms: In room? _____ Community _____ Use tub? _____</p> <p>Shower chair? _____ Other: _____</p> <p>Draw room configuration (on back as needed)</p>	
2.	Describe current storage conditions and problems you have with storage. If new equipment is purchased, where would it be stored?
3.	Identify anticipated changes in the physical layout of your unit, such as planned unit renovations in the next 2 years
4.	Describe space constraints for patient care tasks & use of portable equipment; focus on patient rooms, bathrooms, shower/bathing areas. <i>Are typical room doorways narrow or wide??</i> Is the threshold uneven?
5.	Describe any routine equipment maintenance program or process for fixing broken equipment. What is the reporting mechanism/ procedure for identifying, marking, and getting broken equipment to shop for repair?
6.	If potential for installation of overhead lifting equipment exists, describe any structural factors that may influence this installation, such as structural load limits, lighting fixtures, protruding sprinkler heads, other ceiling fixtures, AC vents, presence of asbestos, etc.

Sources: VA, 2005, Lynda Enos, MS, RN, CPE, 2005

8. Facilities Design Checklist

Directions: Place a check mark in the space next to each item you feel may be a problem area in your dept./unit.

FACTOR	PROBLEM	LOCATION
1. High threshold or obstructions in entry ways of bathrooms, showers, hallways, etc. prevent access for assist equipment		
2. Steep ramp (greater than 10 degrees)		
3. Small or cluttered rooms/bathrooms/hallways or other spaces		
4. Door handles catch on beds/gurneys/etc.		
5. Floors slippery/uneven/cluttered		
6. Storage areas too high/low/awkward to reach		
7. Bedside medical and electrical outlets too low/only on one side		
8. Inadequate storage space		
9. No grab rails by toilets or in bathtubs or showers		
10. Toilet seats too low		
11. Other		

Adapted from Lynda Enos, MS, RN, CPE, 2005