

SPECIAL HANDLING AND MOVEMENT CHALLENGES RELATED TO BARIATRICS

❖ Objectives:

- 1) To understand what technological solutions are commercially available in the use of patient handling for bariatric patients
- 2) To identify when to use specialized patient handling technology
- 3) To understand how to implement the algorithms in equipment selection when caring for bariatric patients
- 4) To list important features of a bariatric policy
- 5) To list four factors affecting the decision to buy versus rent bariatric equipment

List of Abbreviations:

EC = expanded capacity

BMI¹ = Body mass index [patient weight (kg)/ by height squared (m²)]

EMS = Emergency Management Services

ICU = Intensive Care Unit

These guidelines were designed to offer various technological solutions that can greatly assist in the care of obese patients, also called bariatric patients. Weight, combined with atypical body mass, contributes to an increased risk of injury to the caregiver and patient during patient handling and movement tasks. It is evident that there is a lack of knowledge across the healthcare environment about how to safely manage the unique needs of bariatric patients. Managing obese patients provides special challenges to healthcare professionals, e.g., turning and repositioning a patient in bed, transferring in/out of bed, holding a limb while performing patient care tasks, and other activities of daily living. Additionally, environmental concerns, such as doorway clearance, weight capacity of scales, etc., must be addressed.

❖ Defining Obesity

Defining the term “bariatric” poses a challenge, as there are many classification systems.

Internationally, bariatrics is defined as a body mass index (BMI) greater than 30. The BMI is

¹ For online calculators, see:

http://www.kci1.com/body_mass_index_calculator.html or

<http://www.sizewiserentals.com/bmicalculator.htm>

<http://www.nhlbisupport.com/bmi/bmicalc.htm>

calculated by dividing patient weight (kg) by height squared (m²).² This classification system is internationally accepted:

Table 1. Definition of Bariatrics by BMI

International Standards	BMI
Underweight	<18.5
Normal	18.5-24.9
Overweight	25-29.9
Obese (1)	30-34.9
Obese (2)	35-39.9
Obese (3)	>40

For our purposes, we have defined a bariatric patient as anyone who has limitations in health due to physical size, health, mobility and environmental access (Bushard, 2002). For the purpose of using our assessment form and bariatric algorithms, we defined bariatric as individuals exceeding standard capacity equipment (300 lbs) with a BMI of 50.

Most standard equipment is rated to approximately 250-300 lbs and any individual who exceeds this capacity is a candidate for using specialized equipment. One method of assisting in the selection of equipment while caring for a bariatric person is to use an assessment form which guides the use of bariatric algorithms. This is a standardized tool and will only work provided the included equipment is procured. Prior to using these algorithms is the completion of the assessment form which captures important information about the patient (Refer to Appendix A: Assessment form).

❖ **Bariatric Algorithms**

This section provides assessment criteria to assist healthcare providers in planning the safe handling and movement of bariatric patients. The following algorithms should be used as guides when planning patient transfer and repositioning tasks. These algorithms are targeted for registered nurses, licensed practical nurses, nursing assistants, orderlies, physical/ occupational therapists, radiology technicians, patient care technicians, as well as caregivers in the home.

The algorithms are designed to assist healthcare caregivers in selecting the safest equipment and techniques based on specific patient characteristics. These guidelines are prepared based on the scientific and professional information available in January 2003. We recommend that users of

² For Online calculators, see: http://www.kci1.com/body_mass_index_calculator.html or <http://www.sizeviserentals.com/bmicalculator.htm> or <http://www.nhlbisupport.com/bmi/bmicalc.htm>

this guideline periodically review the material to ensure guidelines are consistent with current, reasonable clinical practice. As with any guideline, this content provides general direction, and professional judgment is needed to assure safety of patients and caregivers.

Refer Appendix B for Algorithms

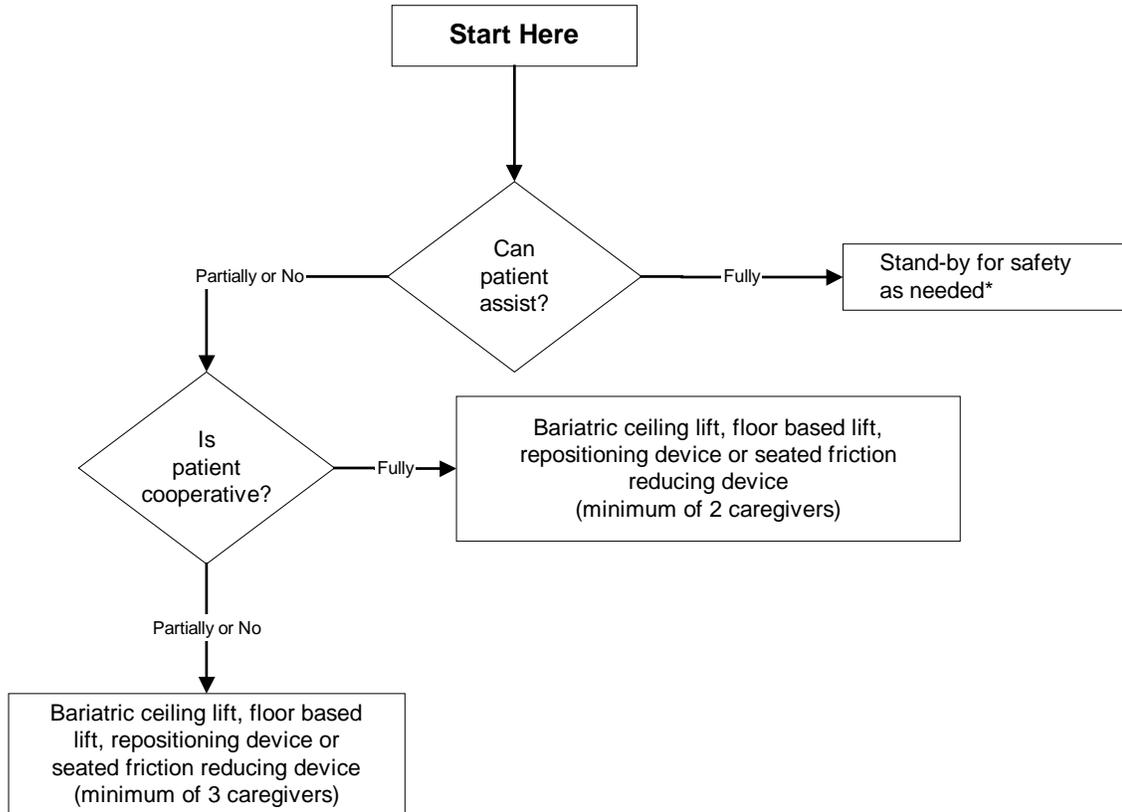
- **Bariatric Algorithm #1:**
Bariatric Transfer to and from: Bed to Chair, Chair to Toilet, or Chair to Chair
- **Bariatric Algorithm #2:**
Bariatric Lateral Transfer to and from: Bed to Stretcher or Trolley
- **Bariatric Algorithm #3:**
Bariatric Reposition in Bed: Side-to-Side, Up in Bed
- **Bariatric Algorithm #4:**
Bariatric Reposition in Chair: Wheelchair, Chair, or Dependency Chair
- **Bariatric Algorithm #5:**
Patient Handling Tasks Requiring Sustained Holding of a Limb to Access Body Parts
- **Bariatric Algorithm #6:**
Bariatric Transporting (Stretcher, Wheelchair, Walker)
- **Bariatric Algorithm #7:**
Bariatric Toileting Tasks

Let's discuss a case study using Algorithm #4 to practice.

Mrs. Smith needs to be repositioned in a chair. The first question asked should be whether she can assist fully or partially. If Mrs. Smith is capable of partially assisting, then the next question is whether she is cooperative. If she is fully cooperative, then use either a bariatric ceiling lift with seated sling, floor based lift, repositioning device or friction reducing device with two caregivers. If Mrs. Smith is not fully cooperative, then she should use the same equipment options mentioned but three caregivers should assist for safety.

Figure 1. Bariatric Algorithm 4

Bariatric Algorithm 4: Bariatric Reposition in Chair: Wheelchair, Chair, or Dependency Chair
rev. 1/3/06



- Take full advantage of chair functions, e.g., chair that reclines, or use an arm rest of chair to facilitate repositioning.
- Make sure the chair wheels are locked.
- Consider leaving the sling under the patient at all times to minimize risk to staff during transfers after carefully considering skin risk to patient and the risk of removing/replacing the sling for subsequent moves.

* "Stand-by for safety." In most cases, if a bariatric patient is about to fall, there is very little that the caregiver can do to prevent the fall. The caregiver should be prepared to move any items out of the way that could cause injury, try to protect the patient's head from striking any objects or the floor and seek assistance as needed once the person has fallen.

- If patient has partial weight-bearing capability, transfer toward stronger side.
- Consider using an abdominal binder if the patient's abdomen impairs a patient handling task.
- Assure equipment used meets weight requirements. Standard equipment is generally limited to 250-350 lbs. Facilities should apply a sticker to all bariatric equipment with "EC" (for expanded capacity) and a space for the manufacturer's rated weight capacity for that particular equipment model.
- Identify a leader when performing tasks with multiple caregivers. This will assure that the task is synchronized for increased safety of the healthcare provider and the patient.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used for the transfer.

❖ **Bariatric Equipment**

There is a common misconception that bariatric patients can be accommodated by simply asking for equipment designed for a “large size.” Most of the attention focuses on a bed and lift to accommodate the patient. In fact, there are many aspects related to equipment that need to be considered. Knowing the weight capacity of existing equipment is critical for safety. Bariatric equipment may be indicated by using a label indicating “EC” (expanded capacity) and weight limits. In addition to patient handling/movement equipment, the weight capacity of bedside recliner chairs or toilets must be considered. A standard commode, in most hospitals, is limited to 350 pounds. Key categories of equipment that need to be evaluated and available for bariatric patients are outlined below. A checklist may be useful in evaluating your need of equipment (refer to Appendix C: Safety Checklist).

❖ **Bariatric Equipment Options**

These guidelines provide information on existing bariatric technologies and manufacturers. However, they do not include bariatric accessories (such as blood pressure cuffs, scales, surgical tables, linen/gowns, and abdominal binders). Refer to the website for a complete listing of equipment. This section will highlight a few new technologies and explain how they can be helpful in caring for the obese patient.

The following categories of equipment are included in the website: www.patientsafetycenter.com

- Ambulation/Mobility Aids
- Bathing Equipment
- Beds/Mattresses/Transportation
- Ceiling Lifts
- Commode/Shower Chairs
- Lateral Transfer Aids
- Multi-Use/Portable Lifts
- Powered Lifts
- Stand Assist Aids
- Transfer/Geri Chairs and Cushions
- Wheelchairs
- Transport Devices

Three types of equipment that may prove beneficial in saving time and reducing caregiver injury are specialized bariatric bed systems, patient transport devices and bariatric turning and repositioning slings.

Bed Systems

New beds are designed to multi-task and accommodate larger weight capacities up to 1000 lbs. Special features offered are turn assist up to 20 degrees to aid in patient positioning, percussion therapy, pulsating air suspension therapy, pressure relief therapy and cardiac chair positioning. Along with newly designed bed frames, low air loss mattresses greatly assist in the prevention of pressure sores and improve patient outcomes, comfort and safety.

An example of such a bed is shown below:



Figure 2. Bariatric Bed

Patient Transport Devices

There are two types of patient transport technologies available. The first type is a stand alone, detachable or independent device which attaches to either a bed, linen cart or trolley. It works by two batteries which power the unit to propel the device forward or backward by operating a lever, similar to that of a scooter. Battery life ranges and is dependent on usage time. Many of these devices can be found in our Technology Resource Guide for Bariatric Patients (found in this toolkit).

The second type of transport technology is one which is built into the bed and powers it by simply pressing two buttons, unplugging the bed and releasing the brakes. There is minimal force exerted to initiate movement of the bed. Use of powered transport devices such as bed and wheelchair movers and powered stretchers is becoming a popular choice as it reduces the risk of caregiver injury by reducing the push/pull forces involved, making patient transport a safer task for caregivers. This is especially important in bariatric patient care where the mass of the patient, in addition to the weight of the bed is excessive, thus demanding higher push or pull forces during patient transport.



Figure 3. Wheelchair mover



Figure 4. Bed with Integrated Power



Figure 5. Independent Bed Mover

Turning and Repositioning Slings

Two tasks which prove very challenging and place caregivers at a high risk for injury include insertion of patient care slings under bariatric patients and repositioning a patient up in bed or turning to the side. Currently, manufacturers are working on designing slings that can be left under patients who have to be moved frequently. The advantages to this would be less strain on the caregivers to turn the patient to the side or log roll them to insert the sling, less time taken to perform the task of repositioning because the sling would already be there and most important, less risk and exposure to injury. Although there is no evidence or literature on leaving slings under patients and patient outcomes, this decision should be carefully weighed. Questions for consideration could be:

- 1) Is the patients' skin compromised?
- 2) How breathable is the sling?
- 3) Does the sling present rough uneven edges which can cause pressure points if left underneath?
- 4) Can the sling be left under the sheet and tucked into mattress when not in use?

Leaving a sling under a bariatric patient can be advantageous to caregiver safety but may be detrimental to the patient and clinical judgment should be used to determine the safest course of action. More research needs to be done in this area.

❖ **Helpful Hints in Selecting Bariatric Equipment**

- Empower staff nurses to lease or procure necessary equipment as soon as possible either prior to or immediately after patient admission. This option needs to be available twenty-four hours a day/ seven days a week. Delays in accessing appropriate equipment could result in patient discomfort and serious injury to the patient or caregiver. For units with bariatric patient services, equipment may be purchased; for others, leasing may be a better option.
- Contact vendors that offer bariatric equipment (a list of vendors is in the Technology Resource Guide for Bariatric Patients provided in this toolkit).
- Know and mark weight capacities on existing equipment to assure appropriate use. This should be done in an unobtrusive manner, such as delineating “expanded capacity.” This protects the dignity of the patient. Use of terms such as “big boy beds” or the “lift for huge people” provide unnecessary dignity assaults to the patient and their family.
- Body dimension is critical for determining the bed width needed. Patients experience discomfort and increased risk for skin lesions when the bed is too *narrow*. Staff injuries increase when the bed is too *wide*, necessitating staff to reach excessively when providing patient care. Several bariatric beds have the capability to contract to allow the bed to go through a doorframe. Appropriate width beds also make it easier for the patient to assist in their own care. Height can also be a key factor in selecting a bed. If the patient’s height exceeds 6’5”, a longer-than-usual-bed will be required for comfort and skin protection.
- The right equipment can facilitate patient function and independence and eliminate some high-risk nursing tasks.
- Position equipment at a height appropriate to the caregiver when providing care.
- Consider motorized transportation assistance devices.
- Consider dimensions of elevator doors and size of equipment.

❖ **Decision to Buy or Rent Bariatric Equipment**

Specialized equipment is required to move, transport, and care for the bariatric patient. As facilities deal with bariatric patients on a more frequent basis, determinations about how to acquire the necessary equipment will be a common task for many caregivers. Each facility will need to decide whether to purchase or rent necessary equipment. The following are factors that may be considered when purchasing or renting bariatric equipment:

1. Number and frequency of bariatric admissions
2. Equipment purchase cost
3. Rental cost

4. Space demands: including fit through doorways/hallways, etc.
5. Patient care needs: bedroom, bathroom
6. Equipment storage needs
7. Length of stay
8. Equipment cleaning and maintenance needs

Summary

With the increase in bariatric patients and comorbidities, there is an apparent need for a proactive approach to caring for such a population with special needs. As caregivers are working longer at an older age, their exposure rate increases in caring for these patients, which translates into an increased risk of injury. Implementing an admission process, a bariatric policy educating staff on how to care for bariatric patients in a sensitive way prior to admission will benefit both caregiver and patient safety (refer to Policy Template, Appendix D). Procuring the proper equipment and fostering a culture of safety is key to maintaining a positive environment for caring of bariatric patients.

Staff needs to be knowledgeable of available technology that could greatly assist in patient care. This can be achieved via a bariatric resource person who communicates with vendors of bariatric technology and conducts equipment trials for staff to trial assistive devices. In-services and just in time training must be conducted to ensure all staff is proficient with proper use of technology in patient care (refer to Bariatric CD online). Promotion of dignified care can be accomplished by using generic terms on equipment to indicate “use for patients exceeding regular capacity. This could be indicated by using “EC” which would mean “expanded capacity” on equipment. Use of algorithms can assist in the decision making process as to type of equipment used and the number of caregivers required to safely transfer patients. It should be noted that although these provide general direction, clinical and professional judgment should be used to assure patient and staff safety.

Information provided in this chapter, although useful, may not be adequate in assisting caregivers decision making in real life situations. To better assist application and translation of the information, a case scenario is presented and questions for consideration are offered.

Case Scenarios:

- 1) Mr. Jones is 550 lbs and is unable to weight bear at all. He needs to go to X-Ray and currently is in Intensive Care Unit (ICU). Which method would be most efficient and safe to accomplish this task?
 - a. Transfer Mr. Jones with an air-assisted lateral transfer device to a stretcher and manually push the stretcher to X-Ray department
 - b. Transfer Mr. Jones to a converta chair and push the chair to X-Ray department
 - c. Leave Mr. Jones in the bed and use the powered feature of the bed to transport him
 - d. Use a sit to stand lift and transfer Mr. Jones to an expanded capacity wheelchair

Let's discuss each of these options.

First Option: Use an air assisted lateral transfer device and stretcher.

Questions that you may want to consider are the following:

- 1) How difficult is it to insert the lateral transfer aid under Mr. Jones?
- 2) Is Mr. Jones able to turn to his side to assist in inserting the device?
- 3) Is the air assisted lateral transfer device wide enough to use for Mr. Jones?
- 4) Can the stretcher safely support 550lbs?
- 5) How many caregivers will it take to push Mr. Jones on the stretcher, assuming it can support 550 lbs ?
- 6) Can the X-Ray be taken while he is on the stretcher or will another transfer have to be done in X-Ray?

Second Option: Transferring Mr. Jones to a converta chair, and then manually push the chair to transport him to X-Ray

Questions that you may want to consider are the following:

- 1) What equipment and method will be used to transfer Mr. Jones to a converta chair- ceiling lift, floor based lift or lateral transfer aid ? How will you insert the sling if using a lift?
- 2) Is Mr. Jones able to turn to his side to assist in inserting the device?
- 3) Is the air assisted lateral transfer device wide enough to use for Mr. Jones?
- 4) The converta chair provides a flat surface for the transfer then can be changed into a seated position for transport. A seated posture may be preferable for Mr. Jones especially if he has breathing difficulty.
- 5) How many caregivers will it take to push Mr. Jones on the chair assuming it can support 550 lbs ? Is it easier to push this chair or push a stretcher?
- 6) Can the X-Ray be taken while he is on the converta chair or will another transfer have to be done in X-Ray?

Third Option: Leave Mr. Jones in the bed and use the powered feature of the bed for transport.

Questions that you may want to consider are the following:

- 1) Is a powered transport device available?
- 2) If the bed that Mr. Jones is using has a powered feature built in, what is involved in activating this feature?
- 3) Is Mr. Jones cooperative?
- 4) Is Mr. Jones lying on a low air loss mattress?
- 5) By unplugging the bed to transport him, does this deflate the low air loss mattress and negate the pressure relief features?
- 6) How much force is required to use powered bed versus push the occupied converta chair or stretcher?
- 7) How many caregivers are needed to push/steer bed?
- 8) On arrival to X-Ray, can the X-Ray be done while Mr. Jones is in bed or is a transfer required?

Fourth Option: Use a sit to stand lift and transfer Mr. Jones to an expanded capacity wheelchair

Questions that you may want to consider are the following:

- 1) Can Mr. Jones use a sit-stand lift?
 - No he cannot weight bear, therefore this is not an option

Task Analysis:

The decision as to which option you choose should be based on many factors, such as resources available in the facility (in-house and rental equipment), recruitment of caregivers, medical stability and sitting tolerance of the patient, weight capacity of equipment, route from bedroom to X-Ray department, size of elevator/doors, flooring (carpet vs tile), but most importantly, how much force is required for the caregiver to perform the essential tasks. Some of the transfers can be eliminated which reduces the stress on the caregivers and elimination of non-essential transfers should be the first option when possible. Essential tasks should be given first priority from non-essential tasks as this can minimize effort exerted, thus reducing exposure to risk of injury.

Directions for the Future:

While caregivers are learning to depend more on expanded capacity equipment to move and transfer bariatric patients, there are many areas which need further research and evaluation. Getting a patient out of a car and transport from the home to ambulance remains a high risk activity for EMS workers. Options for migration currently include sliding boards, air assisted devices or car lifts, similar to that of floor based lifts. Sliding boards used for bariatric patients do not typically work well due to the high friction caused from the excessive mass of the patient. Therefore, there needs to be better technological solutions available to minimize the friction

between the patient and device. Use of friction reducing devices in conjunction with slide boards may prove useful.

Another challenging task for caregivers is getting a bariatric patient up off the floor. One product that may assist is called the ELK, which is an air bladder. It is inserted under the patient, then inflated to raise the patient up (see Figure 6). Two air bladders can be used with a sliding board to maintain the patient in a supine position if necessary or one air bladder should be used if patients' balance and sitting tolerance is satisfactory.



Figure 6. ELK/Patient Booster

Related Links

There are many useful tools that can be found on our website. To acquire these, simply go to <http://www.visn8.med.va.gov/patientsafetycenter/>, click on the resource guide link, then choose the guide of your choice. The following reference items may be used to assist in the safe care of bariatric patients:

- 1) Assessment Form & Bariatric Algorithms
- 2) Educational CD
- 3) Admission Process
- 4) Policy Template
- 5) Bariatric Safety Equipment Checklist
- 6) Reference List

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Appendix A. Assessment Criteria and Care Plan for Safe Patient Handling and Movement

I. Patient's Level of Assistance:

- Independent— Patient performs task safely, with or without staff assistance, with or without assistive devices.
- Partial Assist—Patient requires no more help than stand-by, cueing, or coaxing, or caregiver is required to lift no more than 35 lbs. of a patient's weight.
- Dependent—Patient requires nurse to lift more than 35 lbs. of the patient's weight, or is unpredictable in the amount of assistance offered. In this case assistive devices should be used.

An assessment should be made prior to each task if the patient has varying level of ability to assist due to medical reasons, fatigue, medications, etc. When in doubt, assume the patient cannot assist with the transfer/repositioning.

II. Weight Bearing Capability

- Full
 Partial
 None

III. Bi-Lateral Upper Extremity Strength

- Yes
 No

IV. Patient's level of cooperation and comprehension:

- Cooperative — may need prompting; able to follow simple commands.
- Unpredictable or varies (patient whose behavior changes frequently should be considered as "unpredictable"), not cooperative, or unable to follow simple commands.

V. Weight: _____ Height: _____

Body Mass Index (BMI) [needed if patient's weight is over 300]': _____

If BMI exceeds 50, institute Bariatric Algorithms

The presence of the following conditions are likely to affect the transfer/repositioning process and should be considered when identifying equipment and technique needed to move the patient.

VI. Check applicable conditions likely to affect transfer/repositioning techniques.

- | | | |
|--|--|---|
| <input type="checkbox"/> Hip/Knee Replacements | <input type="checkbox"/> Respiratory/Cardiac Compromise | <input type="checkbox"/> Fractures |
| <input type="checkbox"/> History of Falls | <input type="checkbox"/> Wounds Affecting Transfer/Positioning | <input type="checkbox"/> Splints/Traction |
| <input type="checkbox"/> Paralysis/Paresis | <input type="checkbox"/> Amputation | <input type="checkbox"/> Severe Osteoporosis |
| <input type="checkbox"/> Unstable Spine | <input type="checkbox"/> Urinary/Fecal Stoma | <input type="checkbox"/> Severe Pain/Discomfort |
| <input type="checkbox"/> Severe Edema | <input type="checkbox"/> Contractures/Spasms | <input type="checkbox"/> Postural Hypotension |
| <input type="checkbox"/> Very Fragile Skin | <input type="checkbox"/> Tubes (IV, Chest, etc.) | |

Comments: _____

VII. Care Plan:			
Algorithm	Task	Equipment/ Assistive Device	# Staff
1	Transfer To and From: Bed to Chair, Chair To Toilet, Chair to Chair, or Car to Chair		
2	Lateral Transfer To and From: Bed to Stretcher, Trolley		
3	Transfer To and From: Chair to Stretcher, or Chair to Exam Table		
4	Reposition in Bed: Side-to-Side, Up in Bed		
5	Reposition in Chair: Wheelchair and Dependency Chair		
6	Transfer Patient Up from the Floor		
Bariatric 1	Bariatric Transfer To and From: Bed to Chair, Chair to Toilet, or Chair to Chair		
Bariatric 2	Bariatric Lateral Transfer To and From: Bed to Stretcher or Trolley		
Bariatric 3	Bariatric Reposition in Bed: Side-to-Side, Up in Bed		
Bariatric 4	Bariatric Reposition in Chair: Wheelchair, Chair or Dependency Chair		
Bariatric 5	Patient Handling Tasks Requiring Access to Body Parts (Limb, Abdominal Mass, Gluteal Area)		
Bariatric 6	Bariatric Transporting (Stretcher)		
Bariatric 7	Bariatric Toileting Tasks		

Sling Type: Seated _____ Seated (Amputation) _____ Standing _____ Supine _____ Ambulation _____ Limb Support _____

Sling Size: _____

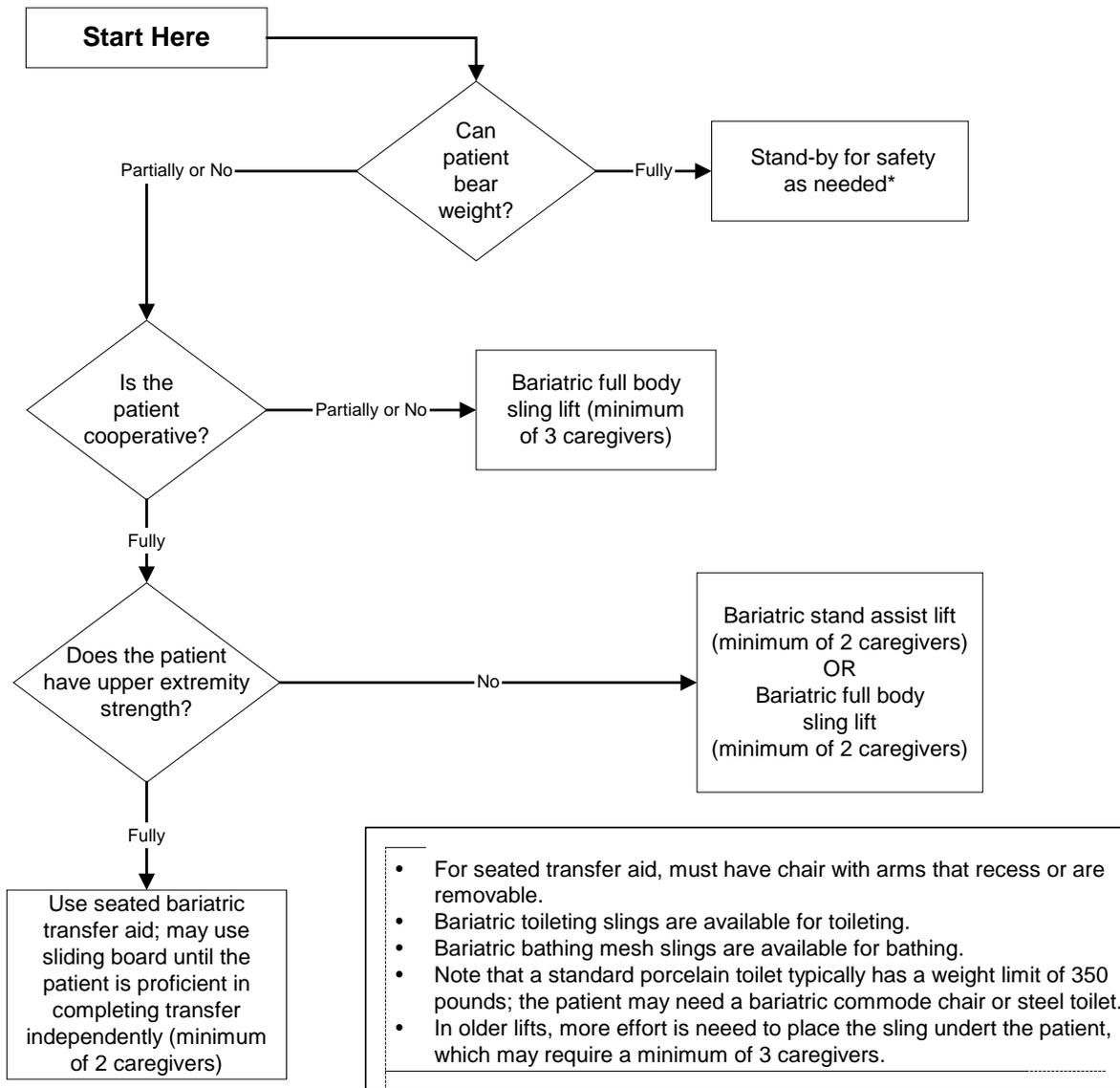
Signature: _____ **Date:** _____

If patient's weight is over 300 pounds, the BMI is needed. For Online BMI table and calculator see:

http://www.nhlbi.nih.gov/guidelines/obesity/bmi_tbl.htm

Appendix B. Bariatric Algorithms

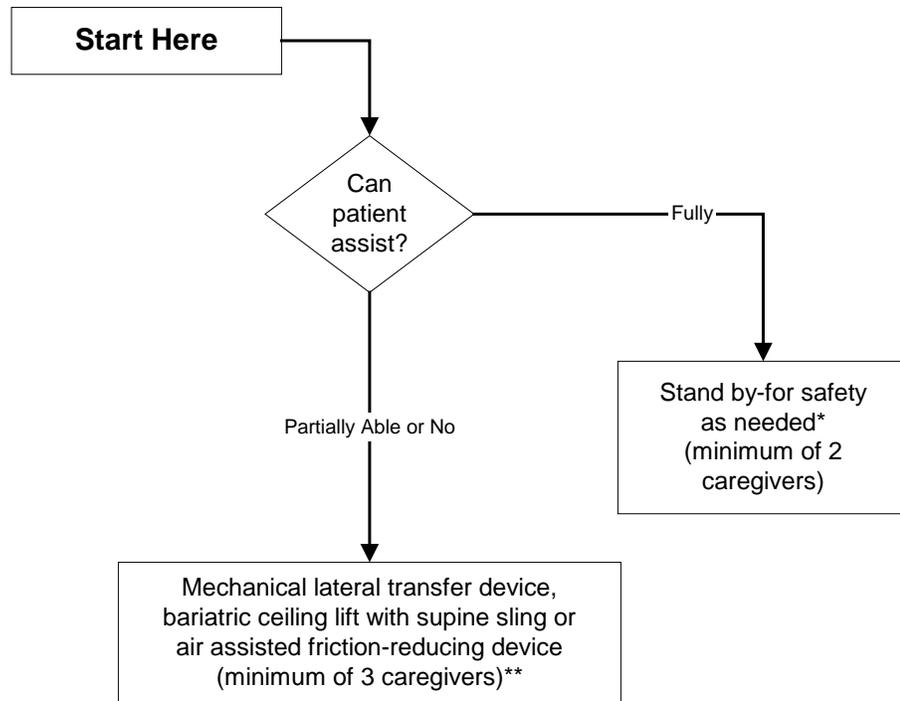
Bariatric Algorithm 1: Bariatric Transfer To and From: Bed/Chair, Chair/Toilet, or Chair/Chair
rev. 1/3/06



* Stand-by for safety." In most cases, if a bariatric patient is about to fall, there is very little that the caregiver can do to prevent the fall. The caregiver should be prepared to move any items out of the way that could cause injury, try to protect the patient's head from striking any objects or the floor and seek assistance as needed once the person has fallen.

- If patient has partial weight-bearing capability, transfer toward stronger side.
- Consider using an abdominal binder if the patient's abdomen impairs a patient handling task.
- Assure equipment used meets weight requirements. Standard equipment is generally limited to 250-350 lbs. Facilities should apply a sticker to all bariatric equipment with "EC"(for expanded capacity) and a space for the manufacturer's rated weight capacity for that particular equipment model.
- Identify a leader when performing tasks with multiple caregivers. This will assure that the task is synchronized for increased safety of the healthcare provider and the patient.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used for the transfer.

Bariatric Algorithm 2: Bariatric Lateral Transfer To and From: Bed/Stretcher/Trolley
 rev. 1/3/06



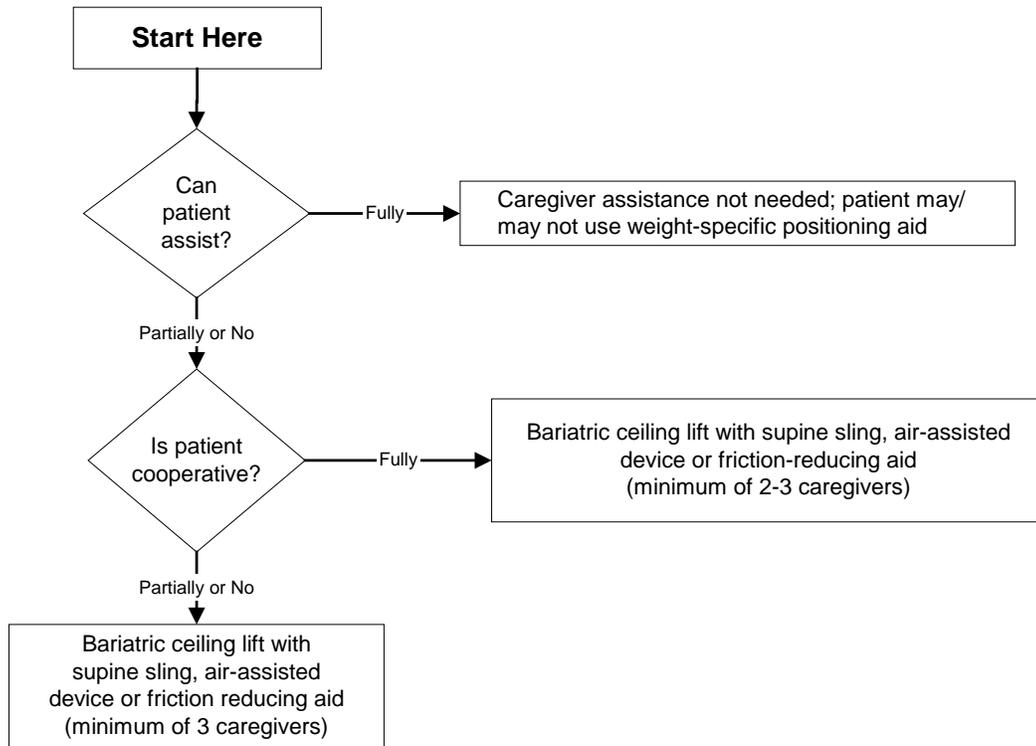
- The destination surface should be about 1/2" lower for all lateral patient moves.
 - Avoid shearing force.
 - Make sure bed is the right width, so excessive reaching by caregiver is not required.
 - Lateral transfers should not be used with speciality beds that interfere with the transfer. In this case, use a bariatric ceiling lift with supine sling.
 - Ensure bed or stretcher doesn't move with the weight of the patient transferring.
- ** Use a bariatric stretcher or trolley if patient exceeds weight capacity of traditional equipment.

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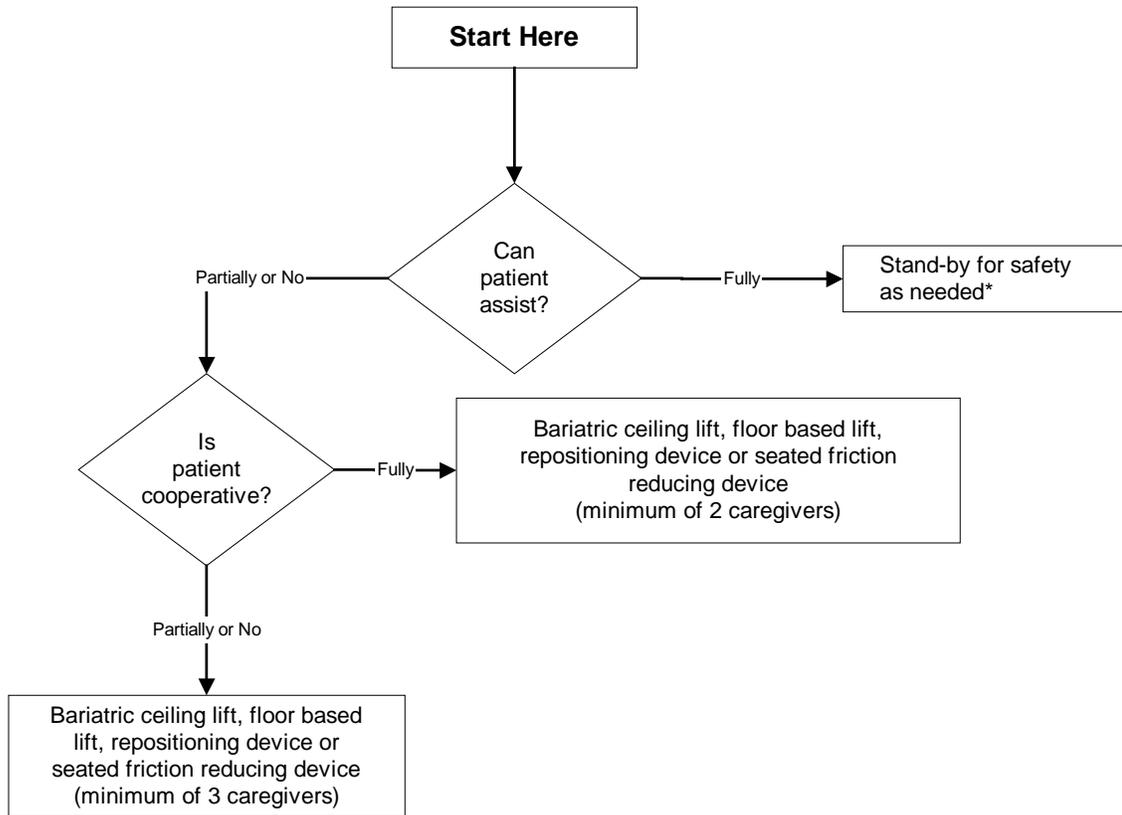
Bariatric Algorithm 3: Bariatric Reposition in Bed: Side-to-Side, Up in Bed
rev. 1/3/06



- When pulling a patient up in bed, place the bed flat or in a Trendelenburg position (if tolerated and not medically contraindicated) to aid in gravity; the side rail should be down.
- Avoid shearing force.
- Adjust the height of the bed to elbow height.
- Mobilize the patient as early as possible to avoid weakness resulting from bed rest. This will promote patient independence and reduce the number of high risk tasks caregivers will provide.
- Consider leaving a friction-reducing device covered with drawsheet, under patient at all times to minimize risk to staff during transfers as long as it doesn't negate the pressure relief qualities of the mattress/overlay.
- Use a sealed, high-density, foam wedge to firmly reposition patient on side. Skid-resistant texture materials vary and come in set shapes and cut-your-own rolls. Examples include:
 - Dycem (TM)
 - Scoot-Guard (TM): antimicrobial; clean with soap and water, air dry.
 - Posey-Grip (TM): Posey-Grip does not hold when wet. Washable, reusable, air dry.

- If patient has partial weight-bearing capability, transfer toward stronger side.
- Consider using an abdominal binder if the patient's abdomen impairs a patient handling task.
- Assure equipment used meets weight requirements. Standard equipment is generally limited to 250-350 lbs. Facilities should apply a sticker to all bariatric equipment with "EC"(for expanded capacity) and a space for the manufacturer's rated weight capacity for that particular equipment model.
- Identify a leader when performing tasks with multiple caregivers. This will assure that the task is synchronized for increased safety of the healthcare provider and the patient.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used for the transfer.

Bariatric Algorithm 4: Bariatric Reposition in Chair: Wheelchair, Chair, or Dependency Chair
rev. 1/3/06



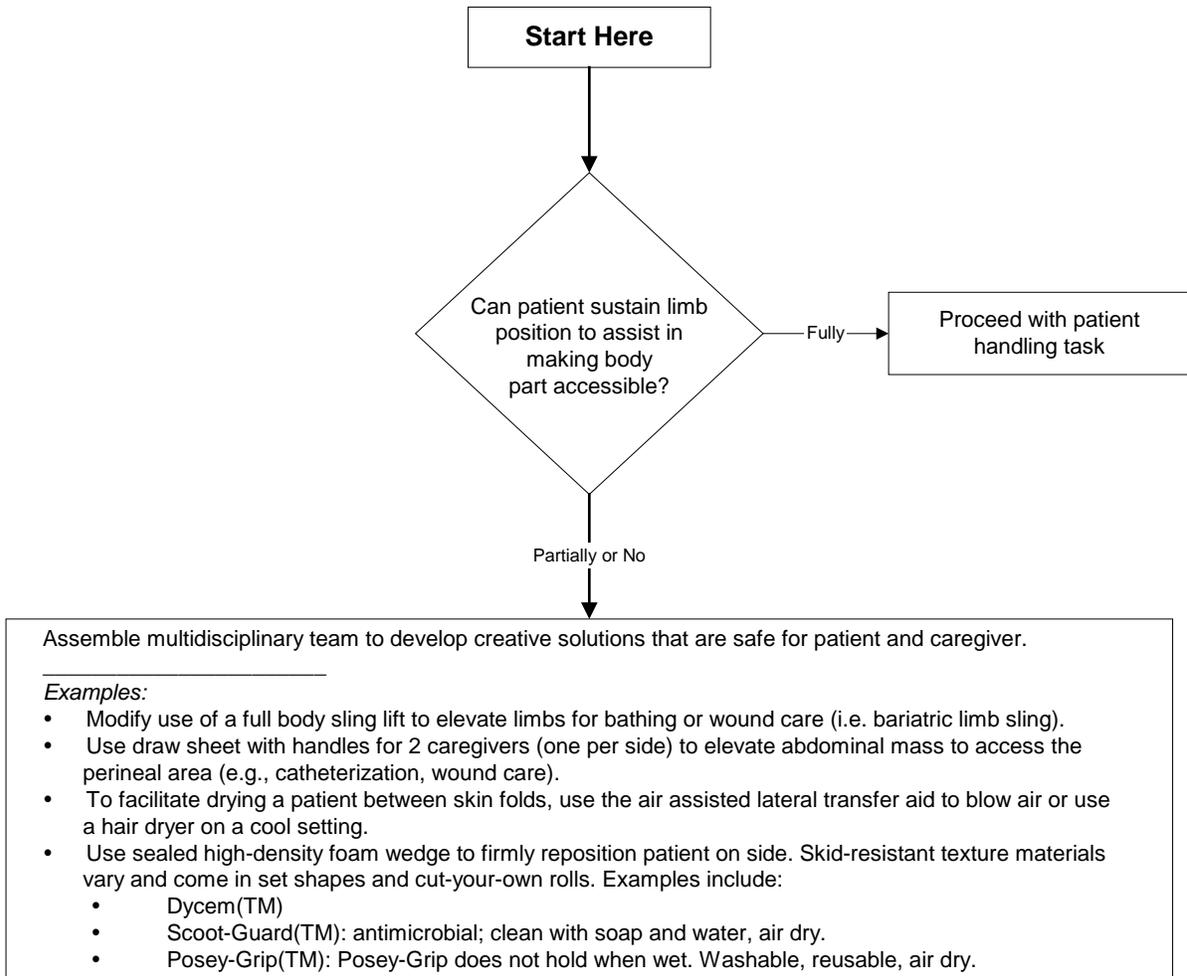
- Take full advantage of chair functions, e.g., chair that reclines, or use an arm rest of chair to facilitate repositioning.
- Make sure the chair wheels are locked.
- Consider leaving the sling under the patient at all times to minimize risk to staff during transfers after carefully considering skin risk to patient and the risk of removing/replacing the sling for subsequent moves.

* "Stand-by for safety." In most cases, if a bariatric patient is about to fall, there is very little that the caregiver can do to prevent the fall. The caregiver should be prepared to move any items out of the way that could cause injury, try to protect the patient's head from striking any objects or the floor and seek assistance as needed once the person has fallen.

- If patient has partial weight-bearing capability, transfer toward stronger side.
- Consider using an abdominal binder if the patient's abdomen impairs a patient handling task.
- Assure equipment used meets weight requirements. Standard equipment is generally limited to 250-350 lbs. Facilities should apply a sticker to all bariatric equipment with "EC" (for expanded capacity) and a space for the manufacturer's rated weight capacity for that particular equipment model.
- Identify a leader when performing tasks with multiple caregivers. This will assure that the task is synchronized for increased safety of the healthcare provider and the patient.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used for the transfer.

Bariatric Algorithm 5: Patient Handling Tasks Requiring Access to Body Parts (Limb, Abdominal Mass, Gluteal Area)

rev. 1/3/06



- A multidisciplinary team needs to problem solve these tasks, communicate to all caregivers, refine as needed and perform consistently.
- Consider using an abdominal binder if the patient's abdomen impairs a patient handling task.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used for the transfer.

Appendix C. Bariatric Equipment Safety Checklist

HOSPITAL BED

- Weight limit _____ lbs.
- Side rail support _____ lbs.
- Bed Scale?
Yes _____ if yes, weight limit _____ lbs.
No _____
- Width of bed _____ inches.
- Bed adjustable for patient height?
Yes _____ No _____
- Mattress type:
Pressure relief _____
Pressure reduction _____ Alternating _____
Rotational _____
- Other _____

WHEELCHAIR

- Weight limit _____ lbs.
- Width _____ inches
- Seat height _____ inches
- Handle width _____ inches
- Powered? Yes _____ No _____

STRETCHER

- Weight limit _____ lbs.
- Width _____ inches
- Length _____ inches
- Side rail support _____ lbs.
- Powered? Yes _____ No _____

BEDSIDE COMMODE/SHOWER CHAIR

- Weight limit _____ lbs.
- Seat width _____ inches
- Adjustable height? Yes _____ No _____

SCALES

- Weight limit _____ lbs.
- Width _____ inches

WALKER

- Weight limit _____ lbs.
- Width _____ inches

BATHROOM

- Doorframe width _____ inches
- Shower door width _____ inches
- Toilet weight bearing limit _____ lbs.
- Wall mounted grab bars
weight limit _____ lbs.

PATIENT CARE ENVIRONMENT

- Patient care weight limit _____ lbs. (basic seating chair not Geri/Cardiac chair)
- Patient chair width _____ inches
- Geri/Cardiac chair weight limit _____ lbs.
- Geri/Cardiac chair width _____ inches
- Geri/Cardiac seat height _____ inches
- Step stool weight limit _____ lbs.

TRANSFER DEVICES

- Lateral transfer devices weight limit _____ lbs.
- Lateral transfer devices width _____ inches
- Powered? Yes _____ No _____
- Full Body (sling) weight limit _____ lbs.
- Powered? Yes _____ No _____
- Full Body (sling) goes to the floor? Yes _____ No _____
- Sit to stand devices weight limit _____ lbs/
- Sit to stand devices width _____ inches
- Powered? Yes. _____ No. _____

ANCILLARY DEPARTMENTS

- Door widths _____ inches
- X-ray table weight limit _____ lbs.
width _____ inches
- CT Scan weight limit _____ lbs,
width _____ inches
- OR table limit _____ lbs., width _____ inches
- ER equipment weight limit _____ lbs.
width _____ inches
- Exam room table weight limit _____ lbs.
weight _____ inches

Appendix D. Policy Template

BARIATRIC SAFE PATIENT HANDLING AND MOVEMENT POLICY

1. **PURPOSE:** To ensure that caregivers assisting bariatric patients are protected from patient handling injuries while bariatric patients are cared for safely, this policy describes ways to ensure that employees use safe patient handling and movement techniques and equipment specific for bariatric patients. As well, this policy is set forth to provide the bariatric patient an environment of dignity and respect in a supportive caring culture.

2. **POLICY:** _____ (Facility Name) wants to ensure that its bariatric patients/residents are cared for safely, while maintaining a safe work environment for employees. To accomplish this, a comprehensive bariatric program will be implemented to ensure appropriate and adequate provisions are identified and made for bariatric patient handling equipment, training and resources in keeping with an effective “Culture of Safety” in the work environment. Identified bariatric patient handling techniques and guidelines will be followed at all times. Additionally, mechanical lifting equipment and/or other approved patient handling aids will be used to prevent the manual lifting and handling of bariatric patients/residents. It is also the policy of this hospital to provide a supporting and respectful environment of care for all patients.

3. **DEFINITIONS:**
 - a. **Bariatric Patient:** Can be defined as anyone who has limitations in health due to physical size, health, mobility, and environmental access (Bushard, 2002). For the purpose of using our assessment form and bariatric algorithms, we defined bariatric as individuals exceeding standard capacity equipment (300 lbs) with a BMI of 50.
 - b. **Patient Handling:** Refers to the repositioning, lifting, turning, transferring, transporting and assisting in ambulation provided by health care workers to patients that need assistance.
 - c. **High Risk Patient Handling Tasks:** Patient handling tasks that have a high risk of musculoskeletal injury for staff performing the tasks. These include but are not limited to transferring tasks, lifting tasks, repositioning tasks, bathing patients in bed, making occupied beds, dressing patients, turning patients in bed, tasks with long duration and those involving bariatric patients.
 - d. **High Risk Patient/Resident Care Areas:** Inpatient hospital wards with a high proportion of dependent patients, requiring full assistance with patient handling tasks and activities of daily living and who are frequently moved in and out of bed. Designation is based on analysis of facility injury data. These units have the highest incidence and severity of injuries due to patient handling tasks. These areas include Spinal Cord Injury Units, Nursing Home Care Units, and other specified areas.
 - e. **Manual Lifting:** Lifting, transferring, repositioning, and moving patients using a caregiver’s body strength without the use of lifting equipment/aids that reduce forces on the worker’s musculoskeletal structure.
 - f. **Mechanical Patient Lifting Equipment:** Equipment used to mechanically lift, transfer, reposition, and move patients. Examples include floor based, sit to stand and ceiling track lifts and mechanized lateral transfer aids.

- g. **Patient Handling Aids:** Equipment used to assist in the lift or transfer process. Examples include gait belts with handles, stand assist aids, sliding board and friction-reducing devices.
- h. **Culture of Safety:** Describes the collective attitude of employees taking shared responsibility for safety in a work environment and by doing so, providing a safe environment of care for themselves, co-workers and patients.

4. PROCEDURES:

- a. **Compliance:** It is the duty of employees to take reasonable care of their own health and safety, as well as that of their co-workers and their patients during patient handling activities. Non-compliance will indicate a need for retraining.
- b. **Assessments Prior to Program Implementation:**

Prior to performing procedures set forth in this policy, it is mandatory that two assessments must be completed: Bariatric Needs Assessment and Bariatric Risk Assessment. These facilitate development of individualized processes and facility plans and help guide management to allocate resources appropriately to prepare for bariatric patient care and admissions.

 - 1. **Bariatric Needs Assessment:** To identify and prevent potential barriers encountered in the admission and care processes and complete a bariatric needs assessment. This includes collection of data, identifying medical conditions, patient characteristics, weight, height, equipment use and location trends (units).
 - 2. **Bariatric Risk Assessment:** This assessment identifies patient and staff safety issues and risk factors for bariatric patient care. These include risks from patient transfers, patient transport, compatibility with transport equipment, room sizes, door widths, elevator size, etc. Please refer to Attachment C, Bariatric Equipment Safety Checklist. Additionally, capture information on the bariatric equipment availability/effectiveness and maintenance support. This information will help in the decision to purchase or rent bariatric equipment.
- c. **Training:**
 - 1. Staff will complete and document Bariatric Safe Patient Handling and Movement training initially, annually, and as required to correct improper use/understanding of safe patient handling and movement. Supervisors should maintain training records for three (3) years.
 - 2. Staff will complete and document safe patient handling and movement equipment training initially and as required to correct improper use/understanding of safe patient handling and movement. Supervisors should maintain training records for three (3) years.
 - 3. Annual competencies will assess ability to provide appropriate bariatric patient care.
- d. **Bariatric Patient Handling Assessment:**
 - 1. The Bariatric Patient Handling Assessment, Care Plan and Algorithms can be accessed _____(say where) and completed by anyone preparing to handle or transfer a bariatric patient (Attachment B).

2. Use expanded capacity/bariatric mechanical lifting devices and other approved patient handling aids in accordance with instructions and training for bariatric patient handling
3. Facility will list persons responsible for training and provide appropriate resources and manuals. Contact _____ for this information.

e. Bariatric Equipment:

1. Expanded capacity/bariatric mechanical lifting devices and other equipment/aids will be accessible to staff. See Attachment A for a listing of such equipment. Depending on facility and unit needs, other equipment may be added to this list.
2. Equipment provisions should be varied and sufficient to care for multiple patients of various sizes and medical conditions. Choose equipment carefully based on patients' shape, size and medical conditions (see Attachment B for Algorithms and Assessment form).
3. Bariatric equipment may be leased or purchased. The decision to purchase or rent equipment should be determined by considering the following factors:
 - Number and frequency of bariatric admissions
 - Equipment purchase cost
 - Rental cost
 - Space demands: including fit through doorways/hallways, etc.
 - Patient care needs: bedroom, bathroom
 - Equipment storage needs
 - Length of stay
 - Equipment cleaning and maintenance needs
4. _____ will ensure that all expanded capacity/bariatric equipment will be labeled as such using the following: "EC – ____ (weight)". This will identify such equipment and their associated weight capacities. The weight capacity will be clearly visible.
5. _____ will also maintain, clean and check equipment in need of servicing or repair. _____ will store expanded capacity/bariatric mechanical lifting devices and other equipment/aids conveniently and safely.
6. _____ will also be responsible for returning rental equipment.
7. The nurse manager will arrange for patient's own equipment to be inspected and a safety check will be performed by the appropriate department prior to patient use.
8. Equipment may be procured by _____ (facility must outline procedure for accessing or renting equipment).

f. Bariatric Patient Supplies:

1. Appropriately-sized patient care items, such as gowns, slippers, robes, ID bracelets, blood pressure cuffs, linens, slings, needles, etc., shall be readily available and stored for easy accessibility. These items can be accessed by contacting the charge nurse on the specific unit.
2. A system will be implemented that distinguishes different sizes of patient care items without stigmatizing bariatric patients.

g. Admissions Procedures:

1. For elective admission, _____ shall communicate the impending need for bariatric patient accommodations.

2. For emergency admission, _____ shall communicate the immediate need for bariatric patient accommodation.
3. The _____ shall assign the appropriate space to accommodate equipment for the bariatric patient (as directed by the _____ on the admitting unit). This may include blocking a space to provide a double space for a single patient.
4. If a bariatric suite is not available, _____ must initiate preparation, including delivery and placement of the bed and other equipment in the room.
5. The Bariatric Patient Handling Specialist or Team _____ (identify who) will be notified of elective or emergency bariatric patient admission.
6. Patient must be weighed as soon as possible upon entry to the facility in order to confirm weight and identify appropriate equipment.
7. Consult specialist if needed (eg. wound care nurse, nurse educator).

h. Patient Transport:

1. To assist in patient transport, use a powered bed/stretcher, bed mover, or powered wheelchair mover. If powered equipment is not available, then choose the least physically demanding transport vehicle.
2. Prior to transporting a patient
 - Map out the route
 - Make sure the bed fits through doorways and into elevators
 - Make sure the transport device/bed is easy to maneuver
 - Make sure an adequate number of staff are available to assist
 - Determine how many transfers are required to accomplish the task and minimize if possible
 - Ensure patient is medically stable
 - Calculate the weight of patient plus bed to ensure elevator weight and other capacities are not exceeded

i. Ensuring Patient Comfort and Dignity:

Bariatric patients have the same rights to be treated with the same comfort, dignity, respect and privacy as other residents. Health Care workers shall acknowledge the patient as a unique individual and treat them with compassion, seeing past a person's weight and size. They shall ensure that dignity and self-worth are maintained by appropriate and professional treatment.

5. DELEGATION OF AUTHORITY AND RESPONSIBILITY:

a. FACILITY DIRECTOR shall:

1. Support the implementation of this policy.
2. Support a "Culture of Safety" within this medical center.
3. Furnish sufficient expanded capacity/bariatric lifting equipment/aids to ensure safe patient handling and movement of bariatric patients.
4. Furnish acceptable storage locations for expanded capacity/bariatric equipment/aids.
5. Provide staffing levels sufficient to support safe patient handling and movement of bariatric patients.

- b. NURSE MANAGERS** shall:
 - 1. Ensure all bariatric patient handling tasks are assessed prior to completion and are completed safely, using appropriate mechanical lifting devices and other approved patient handling aids and appropriate techniques.
 - 2. Ensure appropriate and adequate numbers of expanded capacity/bariatric equipment are available either through rental agreements or through facility purchase.
 - 3. Ensure expanded capacity/bariatric mechanical lifting devices and other equipment/aids maintained regularly, in proper working order, and stored conveniently and safely.
 - 4. Ensure employees complete initial and annual bariatric patient training and additional training as required if employees show non-compliance with safe patient handling and movement or equipment use.
- c. EMPLOYEES** shall:
 - 1. Comply with all parameters of this policy.
 - 2. Use proper techniques, mechanical lifting devices, and other approved equipment/aids during performance of bariatric patient handling tasks.
 - 3. Notify supervisor of any injury sustained while performing patient handling tasks.
 - 4. Notify supervisor of need for re-training in use of expanded capacity/bariatric mechanical lifting devices, other equipment/aids and lifting/moving techniques.
 - 5. Provide care in a manner that acknowledges the patient as a unique individual, treating them with compassion and respect. They shall ensure that dignity and self-worth are maintained by appropriate and professional treatment. Workers should not display negative or judgmental feelings and should attempt to see the person not the weight.
- d. BARIATRIC PATIENT HANDLING SPECIALIST OR TEAM** shall:
 - 1. Acknowledge notification of elective or emergency bariatric patient admissions, and respond in a timely manner.
 - 2. Act as a resource and provide ergonomic consultation and support to staff when bariatric patients are admitted.
 - 3. Assist in monitoring effectiveness of equipment and identification of bariatric equipment needs for individual patients.
- e. UNION** shall: support bariatric program and policy in partnership with administration.