

Transferring Lifting Repositioning (TLR[®]) Program[©] Bariatric Enhancement

Goal and Objectives

The goal of the TLR bariatric enhancement is to assist workers with using minimal manual effort, when moving a bariatric client, through the maximum use of equipment.

To fulfill this goal, the following learning objectives apply:

- provides a definition for identification of a bariatric client
- provides a method of calculating body mass index (BMI)
- discusses commonness of obesity
- discusses care and compassion
- reviews the process for conducting an assessment in accordance with TLR
- identifies and describes techniques for the safe move
- discusses identification, elimination and/or management of associated risk factors
- discusses use of appropriate equipment required for the safe move
- provides a survey tool to assist with determining the number of bariatric clients requiring care

The enhancement is designed to assist healthcare workers in implementing ideas/strategies for managing/eliminating risks associated with moving a bariatric client. It also briefly discusses facility design considerations. Refer to the modules in this resource manual for additional information.

Definition of Bariatrics

Bariatrics is derived from the Greek words “baros”, meaning weight, and “iatreia”, meaning medical treatment. It is the branch of medicine that deals with causes, prevention and treatment of obesity.

TLR Definition of a Bariatric Person

The TLR program defines a bariatric person as any individual who possesses a Body Mass Index (BMI) greater than 34 kg/m² and has physical and/or psychological risk factor(s) and/or medical condition(s) that could potentially jeopardize the safety of the worker and/or client in the performance of transferring, lifting or repositioning tasks.

In TLR, identifying a bariatric client involves much more than assessing weight. Considering body mass index, waist circumference/girth, weight distribution, co-morbidities (serious diseases) and the client’s previous and current functional levels may be helpful in determining which clients are bariatric.

Therefore, determining if a client meets the TLR definition of a bariatric person involves identifying key elements:

- Body mass index
- Waist circumference/girth and weight distribution
- Risk factors for diseases/conditions
- Functional levels.

Body Mass Index

Body Mass Index (BMI) is a measure of an individual's weight in relation to their height. It is a widely adopted method used to correlate body fat and indicate health risks.

Calculating BMI

BMI is calculated by dividing body weight (in kilograms) by height (in metres squared).

Metric: BMI= weight (kg) ÷ height (metres²)

* 2.2 pounds (lbs) is equal to one kilogram (kg)

** 39 inches (") is equal to one metre

There are basically three steps in calculating BMI.

Step 1: Determine weight in kilograms (total weight in lbs ÷ 2.2*)

example: 350 lbs ÷ 2.2 = 159.09 kg

Step 2: Determine height in metres squared [(height in inches ÷ 39**) x itself]

example: 6'2" is 74" (6 x 12 + 2 = 74")

74" ÷ 39 = 1.90 metres

square the metres (1.90 x 1.90 = 3.61)

Step 3: Divide the weight in kg by the height in metres squared

example: 159.09 ÷ 3.61 = 44

Result of calculation: BMI is 44 kg/m²

The example of calculating BMI (above) indicates a BMI of 44. Based on Health Canada's guidelines (below), this would be categorized as Class III Obesity.

Health Canada's guidelines state that health risk levels are associated with each of the following BMI categories:

- Normal weight (BMI of 18.5 to 24.9) = least health risk
- Underweight (BMI under 18.5) = increased health risk
- Overweight (BMI of 25 to 29.9) = increased health risk
- Class I Obesity (BMI 30 to 34.9) = high health risk
- Class II Obesity (BMI 35 to 39.9) = very high health risk
- Class III Obesity (BMI of 40 or greater) = extremely high health risk

Although BMI is commonly used as a measure of health risks, it is important to consider the following limitations:

1. Overestimation

BMI may overestimate body mass in athletic individuals and/or those who have a muscular build, therefore classifying them at a higher BMI.

2. Underestimation

BMI may underestimate body mass, especially in older individuals and/or others who have lost muscle mass, therefore classifying them at a lower BMI.

3. Body Fat Distribution

BMI does not measure the distribution of body fat. Some research has shown that there may be a link between certain health risks and where body fat is situated.

4. Age Applicability

BMI normative data ranges are based on the adult population, that is, those individuals over 18 years of age. It is usually not a good measure for children and teens as their body proportions are different since they are still maturing.

5. Pregnant or Nursing Women

BMI is not suitable for pregnant or nursing women since they require more nutrient and fat reserves than usual in order to support fetal and infant growth. A gain in weight, whether it is body fat or not, may overestimate their BMI.

Waist Circumference/Girth

Measuring waist circumference/girth can provide information regarding body fat distribution, which can be related to certain health risks. Bariatric/obese people tend to have more visceral fat. This type of fat is usually stored around the internal organs of the body and can be commonly stored in the abdominal region in large amounts.

Measuring waist circumference/girth may also be helpful in determining size specifications when selecting appropriate equipment to accommodate a bariatric client.

Procedure for Measuring Waist Circumference/Girth

- identify the narrowest point within the waist region. This will not likely be apparent in a bariatric client; therefore, the worker may have to landmark (locate) the midpoint between the top of the hip bone (iliac crest) and the lowest rib.
- using a flexible tape measure (plastic or cloth), wrap the tape measure around the client at the landmark previously identified
- ensure that the tape measure is flat on the skin, horizontal, and is not too loose or too tight when recording the measurement. Clothing should be removed, if possible, to ensure correct placement of the measuring tape.

According to the American College of Sports Medicine, health risk levels are associated with each of the following waist circumference measurements:

Men: <80 cm or <31.5 in.	Women: <70 cm or <28.5 in.	= very low health risk
Men: 80-99 cm or 31.5-39 in.	Women: 70-89 cm or 28.5-35 in.	= low health risk
Men: 100-120 cm or 39.5-47 in.	Women: 90-109 cm or 35.5-43 in.	= high health risk
Men: >120 cm or >47 in.	Women: >110 cm or 43.5 in.	= very high health risk

It is important to recognize that when measuring waist circumference accuracy can be limited; therefore, solely using waist measurements as a health risk determinant may not be appropriate.

Weight Distribution

Bariatric clients have different body types which may, in turn, affect how the client is transferred or repositioned. Body types are classified according to weight distribution and are identified as follows:

Pear-shaped

Adipose tissue (excess fat) in pear-shaped body types is situated below the waist in the gluteal-femoral (buttock and thigh) region of the body. Clients with this body type are generally able to shift their weight and overcome their centre of gravity when attempting to rise from a seated position. These clients may have difficulty bringing their knees together, depending upon where fat tissue is distributed. The excess weight of the lower extremities may make rolling difficult.

Apple-shaped

Adipose tissue in apple-shaped body types is situated in the abdominal region or waist. Clients with this body type may have more difficulty with mobility as the adipose tissue is located around their centre of gravity. The abdomen may be rigid (stiff) or mobile (hangs to the floor). These clients usually prefer to have their head elevated as breathing may be difficult for them. They tend to have poor endurance. Rolling, as well as getting from supine (lying on back) to sitting, may be difficult due to a larger abdominal mass. Leaning forward to stand may also be difficult for these clients.

Bulbous Gluteal (enlarged buttock region)

Adipose tissue in bulbous gluteal body types is situated in the buttocks, creating a protruding shelf. Clients with this body type may have difficulty with lying supine. They may also be limited in sitting and may have trouble rising from sitting to standing as excess bulk may cause a shift in their pelvis.

Anasarca (severe generalized edema)

This is characterized as general swelling throughout the body. It is a complication to obesity usually caused by overload of the lymphatic system (which is responsible for removing fluid from tissues and absorbing and transporting fats and fatty acids to the heart and bloodstream). These clients have more life-threatening conditions or acute illnesses such as congestive heart failure or ventilatory (breathing) obstruction. Many of these clients are on bed rest, therefore, skin integrity must be considered since the skin is stretched as a result of swelling making it more susceptible to frictional burns, skin tears or ulcerations.

Risk Factors for Diseases/conditions Associated With Bariatric Clients

Bariatric clients may be more susceptible to developing many other chronic diseases as a result of their obesity. Many bariatric clients have serious diseases (co-morbid) and/or conditions that will be necessary to consider during the TLR assessment process as well as prior to performing a moving task. Diseases/conditions to consider include, but are not limited to, diabetes, coronary-artery disease, hypertension, gallbladder disease and osteoarthritis. Each client's condition must be assessed on an individual basis.

Prevalence of Obesity

Obesity has become a prevalent (common) epidemic that has increased the risk for several diseases/medical conditions which, in turn, have contributed to premature mortality (death). In many countries obesity has doubled, or even tripled in some places, over the past few decades. As obesity rates continue to increase, health care providers can expect to encounter bariatric clients more frequently. This may increase the risk of injury to both the client and the worker; therefore, appropriate action to eliminate or manage the risk(s) must be taken.

Detailed survey results regarding the prevalence of obesity are available from Statistics Canada.

Care and Compassion

When caring for bariatric clients, both physical and psychological health should be considered. Issues of self-esteem are usually apparent in bariatric clients and they may become easily offended by comments or procedures that health care workers deem as kind. Concerns about staff safety can affect how the bariatric client is cared for as workers may be reluctant to assist with the handling and mobility of a bariatric client.

Workers should investigate alternative methods to approaching the bariatric client to ensure compassionate care is provided. Good communication skills can increase trust between the client and the care provider. When moving a bariatric client, some strategies that may be helpful are listed below:

- Use non-offensive terms such as weight, excess weight or body mass index. Terms like excess fat, obesity, large or heavy may be hurtful or offensive. It may be beneficial to ask the bariatric client what terms he or she prefers.
- Talk to the client. Showing consideration and offering empathy (e.g., understanding, compassion) will help build a good rapport. Bariatric clients are already aware of their struggle with their weight. Being sensitive to this may help them feel more respected.
- Emphasize that the bariatric client's comfort is important when a moving technique is being performed.
- Thoroughly explain the moving technique to the bariatric client and other workers involved. Bariatric clients may be leery of the workers' and/or equipment's ability to support their weight. By providing them with as much information as possible, the client's distrust may be reduced.
- Ask the bariatric client how they perform specific tasks. Have the client demonstrate how he or she gets out of bed, mobilizes, performs activities of daily living, etc.
- Focus on the safety of the bariatric client and the workers, not the obesity.
- Ensure healthcare workers are appropriately trained as required by Saskatchewan's occupational health and safety legislation, in operating equipment.

Assessment

When moving a bariatric client, TLR assessment process is applied.

Refer to Module 2 in the TLR User Manual, 4th edition, for the assessment process.

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It is important to remember that assessment is a continuous and on-going process. Risk factors in all areas must be assessed before, during and after each task to ensure a safe move. Risks have the potential to jeopardize the safety of the worker(s) and/or the client when planning a moving task and selecting the appropriate moving technique. The worker(s) should not proceed with the moving task until the risk(s) is managed or eliminated.

When performing an environmental assessment prior to moving a bariatric client, the worker should further consider:

Room/Area

Space requirements may be overlooked when caring for a bariatric client. The client, as well as the furniture and equipment needed to provide care, are larger and therefore take up more space. An environment that is less confined may help to ensure that the moving task is performed safely and may also assist with increasing the options for equipment use. A wider than normal doorway may also assist with a safe move as it would allow for an easier move of beds or equipment necessary for the care of a bariatric client.

Equipment

The weight capacity of the equipment must be suited to the weight of the client. Bariatric clients may require specialized “expanded capacity” equipment and attachments such as slings. Friction-reducing transfer devices (e.g., slider sheets) may also be needed to ensure a safe move. It is of utmost importance to ensure that the recommended weight capabilities of equipment are appropriate for each bariatric client in order to reduce/eliminate any associated risk.

Additional Considerations:

When assessing a bariatric client, the worker should also further consider:

Body Mass Index (BMI)

Safety risks increase for both the client and worker when a client’s BMI exceeds 34 kg/m². A comprehensive care plan may be developed to ensure safety of the client and/or worker and use of a mechanical device should be considered.

Weight Distribution

Weight distribution may impact the safety of the moving task as it may determine which equipment is most appropriate to use. How a worker handles a bariatric client whose weight distribution is predominantly around the abdominal region may be different as opposed to a client whose weight is predominantly around the gluteal (buttock) region and thighs. A bariatric client may also require specific positioning and/or displacement of his or her abdomen or skin folds for comfort.

Pain

Bariatric clients frequently experience pain due to the added exertion imposed upon the body as a result of excess weight. This pain can affect the client’s ability to assist in care, mobility, transferring or repositioning. The risk of injury to the client and the worker are increased when the moving task is interrupted by pain. It is important to have a clear understanding of the client’s pain and how it may impact the safety of the moving task. Further care planning and selection of appropriate equipment may be necessary to ensure that any risk is eliminated or managed.

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Endurance

Bariatric clients often demonstrate reduced endurance which can impact the moving task and possibly lead to falls. Endurance can drastically decrease within a few days of bed rest; therefore, the client's perception of ability may be higher than his or her actual capabilities. Ongoing assessment is essential to ensure the safety of the client and/or worker.

Respiratory Status

Many bariatric clients experience some level of respiratory (breathing) impairment. In some cases, shortness of breath may be due to certain positions the bariatric client is in and in other cases, the breathing difficulty may occur when mobilizing. The majority of bariatric clients find lying supine (flat on the back) uncomfortable as their excess weight may suppress and impact the function of the lungs and other major organs.

Skin Integrity

A bariatric client may be more prone to developing skin injuries, such as pressure ulcers, usually due to immobility and excess weight. The excess weight may cause increased friction between surfaces and the client's skin, often leading to skin breakdown.

Personal Care

Washing and/or bathing can be a challenge for a bariatric client as many cannot access some parts of their body. Skin folds may be difficult for the client to lift, leaving the skin under the folds more prone to fungal or bacterial growth.

Medical Conditions

Although medical conditions can have an impact on performing a moving task with any client, extra precautions should be considered when handling a bariatric client. Many health conditions or serious diseases (co-morbidities) can arise as a result of obesity. This may impact the technique used when handling a bariatric client.

To ensure the safety of the bariatric client and worker(s) at the time of the move, a **minimum** of three workers is recommended.

When transporting a bariatric client using the appropriate device for transport, the worker(s) may need to consider:

- planning ahead by mapping out the route to be taken, ensuring doorways, hallways, elevators, etc., can accommodate for the bariatric client and equipment
- that the client's bed may be the method of transport and would require additional staff
- using a powered transport device to ease the load (e.g., power driven bed or stretcher)
- selecting a method of transport that is most suitable for the worker(s) and client
- ensuring that the transport device weight capacity and size is appropriate
- two workers when pushing a bariatric size wheelchair; may consider three if the client requires assistance with attachments or equipment.

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Client Moving - General Guidelines/Recommendations

When moving a bariatric client, the following may be considered in addition to the general steps and moving techniques in the TLR program

- Ask the client how he or she performs the task. The bariatric client has likely had to adapt the way he or she performs routine tasks and may be capable of performing the task on his or her own or with verbal guidance from the worker. The client should also be encouraged to assist as much as possible.
- Use equipment/assistive devices to ease the load. Ensure the equipment/assistive device is appropriate for the task. It must meet weight requirements and be in good working condition.
- Additional staff may be required. A primary worker should be identified to ensure the safety of the moving task. The additional worker(s) may provide hands-on assistance with the client or assistance with attachments such as intravenous poles or oxygen tanks.
- Depending upon the client's body type, the worker(s) may have to support the abdomen, especially if it impairs the moving task. The use of an abdominal binder may assist with this.

Note: Manual lateral transfers are not recommended when bariatric beds and/or stretchers are used due to the risk of over-reaching. Use of equipment, such as a ceiling track lift, is recommended.

Workers must ensure that the brakes on the bed or wheelchair are in the locked position. The workers must also ensure that the bed, stretcher or wheelchair does not move with the weight of the client when performing a repositioning task.

The bariatric client is not to be manually lifted during any moving task. Equipment/assistive devices should be used to reduce the load and to ensure the safety of the worker(s) and/or client.

Summary

The TLR program content is applicable to the bariatric client and additional considerations will be necessary. Specialized assessments will often need to be considered.

Moving a bariatric client involves practicing safe body mechanics, additional staff to assist with the task, proper use of appropriate equipment, problem solving, assessment and eliminating or managing risks.

It is important to recognize that at this time there are no well-defined guidelines for moving bariatric clients. The recommendations provided within this information are not all-inclusive. As additional information becomes available, the TLR program will be enhanced.

Bariatric Readiness Survey

This survey was developed to assist employers in evaluating current transferring, lifting, repositioning practices and procedures for providing care to bariatric client. It may assist with determining the steps necessary to prepare for the possibility of accommodating a bariatric client. Evaluation of the workplace serves to recognize direct and indirect factors that may contribute to potential risks and to identify possible solutions that will serve to minimize the risk of injury to workers and clients.

This survey may assist with the following:

- identification of worksites where safe handling and mobility for bariatric clients is required
- evaluation of current policies/procedures/practices for bariatric client handling
- recognition of the need for development and/or improvement of policies/procedures/practices for safe bariatric client handling
- the risk potential for handling a bariatric client
- consideration of the need bariatric/expanded capacity equipment
- identification of the need for specific training for staff expected to be involved in the care of bariatric clients.

Instructions

Step 1: Identify the risk(s) Using this survey, evaluate the site for risk factors that may arise when handling and/or moving a bariatric client.

Step 2: Collect information about the risk factor(s) Identify and collect information about risk(s) specific to the safe handling and/or moving a bariatric client.

Step 3: Analyze information collected Consider all of the risks identified from the survey and determine if the risk factors will impact the safe handling and/or moving of a bariatric client. Consider the probability of the risk occurring and the possible outcome.

Step 4: Determine appropriate action to eliminate or manage the risk factors Once the risk factors have been identified, determine a plan of action to ensure the safe handling and/or moving of a bariatric client. If you cannot eliminate the risk, a plan of action to manage the risk should be developed, communicated and implemented. It is important to incorporate a strategy that ensures the safety of the caregiver(s), the client and others.

Step 5: Evaluate On an on-going basis, review and evaluate the process of actions taken to eliminate or manage the identified risks to determine the effect. Continuous evaluation may assist with reducing the likelihood of new risks arising.

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Date: _____

Completed by: _____

Agency: _____

Department/unit: _____

1. How many bariatric clients have been admitted during the past 12 months? Circle the appropriate response:

< 2 3 to 6 7 to 10 >10(specify the number) _____

2(a). Which departments/areas/units have encountered the most contact with bariatric clients? Check all appropriate responses:

Emergency	Cardiosciences
Intensive Care Units	Diagnostic Imaging/Radiology
Orthopaedics	Neurology
Pediatrics	Labour & Deliver/Maternity
Emergency Medical Services	
other: list all other areas	

2(b). What level of care was required? (example: assistance with mobility, specific equipment)

3. Has an audit/analysis been completed to determine the capability for accommodating bariatric clients? If yes, please explain or attach additional documentation:

4. Is there a policy and/or procedure in place for the safe handling of bariatric clients? If yes, please explain or attach additional documentation:

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5(a). Is adequate staffing available for safely handling bariatric clients? Please explain:

6. Is appropriate equipment available, in sufficient quality and quantity, for the safe handling of bariatric clients? If yes, explain or attach additional documentation:

7(a). Is specific training and education provided for the safe handling and/ or mobility of bariatric clients? If yes, please explain:

7(b). If specific training and education is provided, how effective is the program in preventing musculoskeletal injuries associated with safe handling of bariatric clients?

8. Has there been an evaluation completed or reviewed regarding previous experiences with handling and/or mobility of bariatric clients? If yes, how successful was the process/move/technique at that time? Please explain or attach additional documentation:

9. From the information you gathered on the previous questions, what is the level of risk for handling and/or mobility of bariatric clients? Circle one response:

Low Moderate Hi