

CLINICAL FOCUS

Caring for plus size patients

A person-centred approach to patient handling, mobility, pressure injury prevention and hygiene care

arjo
with people in mind



Caring for plus size patients

Caring for plus size patients is a substantial and increasing challenge for today's healthcare providers.

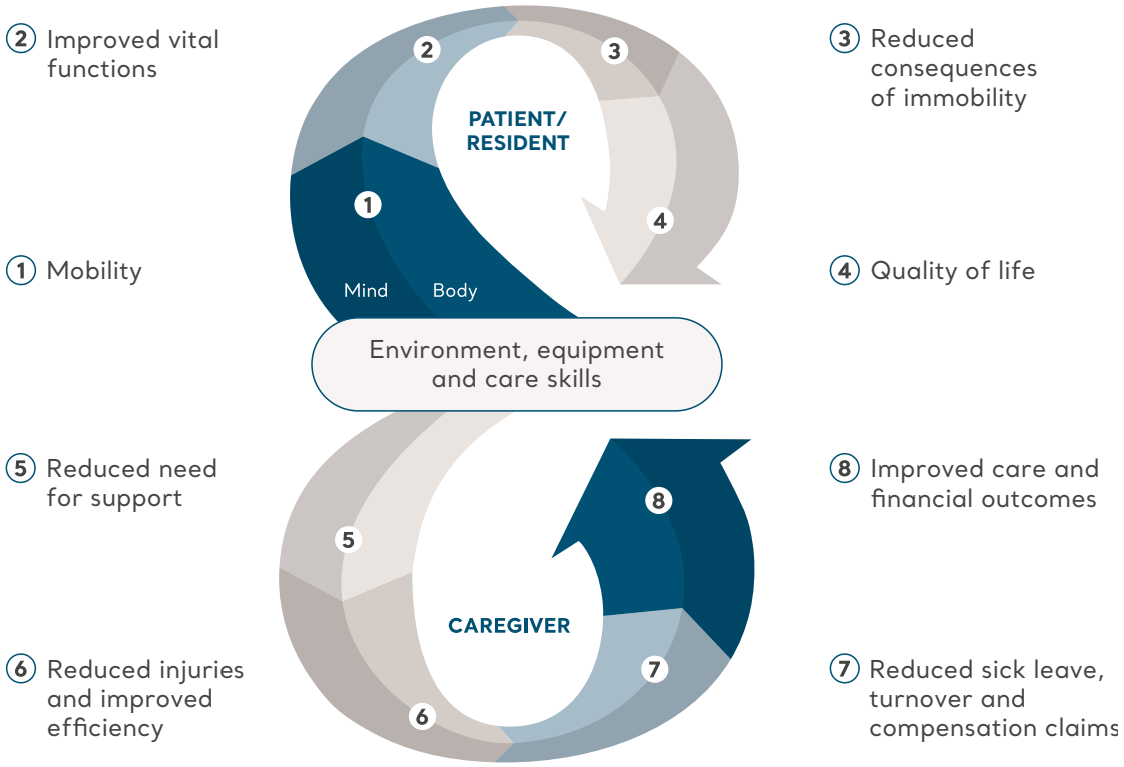
This is especially so in the hospital environment, where the increasing population of larger patients places considerable pressure on available resources and the need for care to meet the unique needs of this patient population.

This guide has been developed to highlight factors for consideration and help identify equipment that may be required to support plus size patients with different levels of functional mobility who may also be at risk from complications of immobility and other obesity related issues.

"When required, handling of plus size people is not as complex as perceived, it just requires foresight."

Tracey Carr, plus size patient

Arjo Positive Eight



The right **environment**, **equipment and care skills** need to be in place to allow the benefits of the Positive Eight to flow

The Positive Eight is a core philosophy for Arjo, where the right environment, equipment and care skills need to be in place to allow the benefits for the patient, the caregiver and the facility to be realised. Mobility is the key – promoting, stimulating and maintaining mobility for the patient will start the flow of the Positive Eight.

Impact of the Environment

When in the hospital plus size patients often require greater assistance with activities of daily living due to their size, altered mobility level and the need to adapt to a new environment.[1,2]

The environment needs to allow easy access to the patient and facilitate safe use of mobile bariatric equipment allowing caregivers enough space to bend and move.

Mobilising plus size patients in small spaces increases risk of injury as they are more likely to fall onto fixtures or furniture where injury is more likely.

Patient Assessment

During the pre admission/admission process it is important to acquire a current weight, and identify the patient's body shape and weight distribution to help select appropriate equipment that will meet the person's needs. Assessing a plus size patient's ability and willingness to participate during the care process is an important factor to consider during repositioning, transfer, mobilisation and hygiene procedures. This is required to understand the need for equipment and other assistance that may be required for the person to carry out activities of daily living and support independence and rehabilitation. Always ask the patient how they manage these tasks at home to help with care planning.

Assessing the patient's functional mobility level prior to hospital admission for elective procedures or during an emergency admission is an important step in the process to help plan care.

The patient's functional ability may be temporarily impaired by pain, level of consciousness, medication, or mobility limitations secondary to other medical conditions or procedures.

Arjo Mobility Gallery

To assist caregivers during assessment of their patient's functional mobility, Arjo developed the Mobility Gallery[3] a validated, classification tool based on an ISO standard[4]. The Mobility Gallery categorises mobility level, considers caregiver exposure to physical overload and makes appropriate equipment recommendations for the delivery of safe patient care.

With the Mobility Gallery patients are classified according to their degree of functional mobility, which can be recognised by their alphabetical names: from the most mobile Albert to the most dependent Emma. By visualising the characters, the Mobility Gallery becomes an important interdisciplinary communication tool, making it possible to discuss choices in care and rehabilitation in a realistic way



ALBERT



BARBARA



CARL



DORIS



EMMA



Albert
Is able to perform daily activities independently without assistance from another person. The patient may require special aids or appliances to assist their independent function. Generally, there is no risk of physically overloading the caregiver.

Barbara
Is partly capable of performing daily activities independently and the assistance she requires is not generally physically demanding for the caregiver. Assistance may consist of verbal support, feedback or instructions, but light physical assistance may also be necessary. This assistance can be provided in combination with small aids.

Carl
Is unable to perform daily activities without assistance, but is able to contribute to the action or perform part of the action independently. Assistance would, if provided without special precautions, lead to the risk of physically overloading the caregiver. In these cases, equipment should be used to prevent the caregiver from being exposed to unsafe levels. However, these patients are able to actively contribute to the movement and it is important that they maintain or improve this capacity as far as possible. The assistance provided for Carl might include transfers using a standing and raising aid. It is important to stimulate Carl's remaining capacity and slow down or reverse the deterioration of his mobility.



Doris
Is incapable of performing daily activities independently or actively contributing in any substantial or reliable way at this time. Assistance would, if provided without special precautions, lead to the risk of physically overloading the caregiver. Equipment should be used to reduce this risk. This patient is currently unable to substantially contribute to the movement. However, wherever and whenever possible, it is important to activate these patients. The assistance provided for Doris might include transfers with a sling lift.

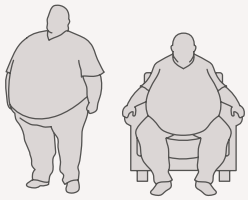


Emma
Is currently incapable of performing daily activities independently or actively contributing to them. Assistance would, if provided without special precautions, lead to the risk of physically overloading the caregiver. Equipment should be used to reduce this risk. This patient is unable to actively contribute to the movement at this time. Emma is transferred with the help of equipment, such as a sling lift and/or sliding aids within the bed.

Body shape and weight distribution

Factors such as patient size and weight distribution are important issues to consider during the assessment process. Recognition of the challenges posed by different body shapes helps in understanding the impact on factors such as the person's mobility and the need to select appropriate solutions to help in the care process. In the case of plus-size patients, choosing the right equipment will depend not just on their level of mobility, but also on their individual body shape and weight distribution.

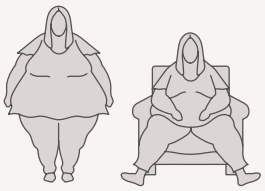
Different body shapes mean, for instance, that hip width can vary considerably between plus size patients of the same weight. Although the safe working load of the equipment might be adequate for the patient's weight, the patient's hips maybe too wide for the equipment. This is an important factor to consider when choosing equipment such as beds, mattresses, slings, lifters, wheelchairs, bed side chairs, commodes and shower/hygiene chairs to avoid the risk of patient injury.



Apple

Weight distributed around the centre or torso of the body, android ascites or android pannus

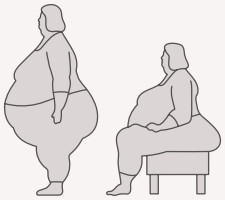
Associated with round shoulders, fuller tummy area, average to large bust, well-toned legs and a flatter bottom



Pear

Weight distributed unevenly with heavier lower body

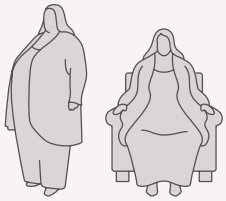
Narrow shoulders with a smaller bust, well-defined waist, lower body wider than the upper body, full hips and thighs, rounded bottom



Bulbous Gluteal

Weight focused on excessive buttock tissue causing a posterior protruding shelf

Excessive buttock tissue creates a posterior protruding shelf that significantly alters seating and supine posture



Proportional

Weight evenly distributed

Weight distributed comparable to patients of average weight

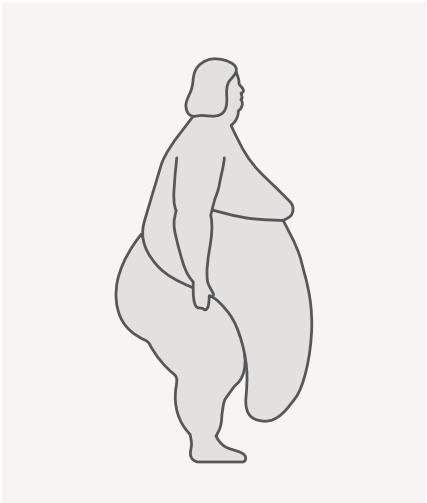
Pannus

The pannus (sometimes called panniculus or abdominal apron) is a large skin fold that can vary in size and may even hang below the knees. A large abdominal pannus may impede a person's movement, sitting, standing and walking and pose challenges during the hygiene process.

Pannus size is classified as follows:[5]

Pannus classification

- Grade 1 panniculus will just cover the pubic hair line, up to the mons pubis
- Grade 2 fully covers the genitals
- Grade 3 extends enough to cover the upper thigh
- Grade 4 reaches down to the mid-thigh
- Grade 5 covers the knees or lower



In bed mobility

Specialist bariatric beds, surfaces and repositioning solutions designed for use with plus size patients can support caregivers in the provision of dignified care, help support patient independence, while reducing the risk of patient and caregiver harm

Mobility Level	 Albert	 Barbara	 Carl	 Doris	 Emma
Bed	Bariatric high-low bed	Bariatric high-low bed	Bariatric high-low bed	Bariatric high-low bed	Bariatric high-low bed
Surface	Non powered surface	Non powered surface	Powered surface	Powered surface	Powered surface
Microclimate management	Microclimate management coverlet	Microclimate management coverlet	Microclimate Management Coverlet	Microclimate management coverlet	Microclimate management coverlet
In bed Repositioning		Sliding sheets	Sliding sheets Patient lift system with repositioning sling and transfer sheets	Sliding sheets Patient lift system with repositioning sling and transfer sheets	Sliding sheets Patient lift system with repositioning sling

Bariatric beds

A plus size patient needs space in bed for comfortable positioning, to help facilitate care procedures and to encourage early movement and mobility while maintaining dignity. While no clear guidance exists regarding when a specialist bariatric bed should be selected, a recent study,[6] suggests patients with a BMI greater than 35 kg/m^2 who are unable to laterally reposition themselves will benefit from a wider bed and caregivers should consider placing all patients with a BMI greater than 45 kg/m^2 on a wider bed regardless of mobility level.

- Specialist articulating bariatric beds should be able to accommodate a wide range of plus size patients weighing up to 454 kgs/1000 lbs
- An adjustable bed width provides more space for patient comfort, movement and care procedures including repositioning
- In bed weigh facility provides easy access to patient weight information although this should not be constantly displayed to help preserve patient dignity
- A bed power drive system, facilitates one person transport of plus size patients depending on hospital protocol. This can reduce both the number of staff needed and help reduce the risk of work-related injuries
- Bed height range needs to support patients being able to mobilise from the side of the bed
- Bariatric bed's should blend in with standard beds used on the ward to help with patient dignity





Adjustable bed width



Power drive system helps reduce effort needed and number of caregivers required for patient transport

Pressure injury prevention and support surface selection

Mobility Level	Albert	Barbara	Carl	Doris	Emma
					
Surface	Non powered surface	Non powered surface	Powered surface	Powered Surface	Powered Surface
Microclimate management	Microclimate management Coverlet	Microclimate management Coverlet	Microclimate management Coverlet	Microclimate management Coverlet	Microclimate management Coverlet

Plus size patients are at risk of developing pressure injuries as a result of factors, including reduced mobility, poor nutrition, and excess skin moisture/heat.[7] In addition to injury over bony prominences, pressure injuries can occur in atypical locations such as large and deep skin folds due to maceration, skin inflammation, infection and tissue necrosis. A fragile vascular and lymphatic network is responsible for skin and tissue complications often resulting in oedema and skin tears.

Support Surface

An adjustable width surface that is sympathetic to the needs of plus size patients and offers appropriate pressure redistribution in combination with microclimate management can play a significant role in increasing patient comfort and pressure injury prevention

Powered Surface Options: the Auralis Plus Alternating Pressure bariatric mattress replacement system, is a new, width adjustable, dual-therapy system for the management of plus size patients.

- Option to add the Skin IQ 1000 microclimate management coverlet by simply plugging into the Auralis pump. Negative Airflow Technology helps address the risks associated with increased temperature and moisture between the skin and support surface.
- When added to the Citadel Plus bedframe, the combination supports a seamless bariatric care environment to help facilitate safe and efficient management of the plus size patient weighing up to 454 kgs/1000 lbs.

Non powered surface options: the AmosAir Plus mattress is designed specifically for the Citadel Plus bedframe. Self Adjusting Technology (SAT) automatically adjusts cell pressures in response to patient movement. Skin IQ 1000 microclimate management coverlet can be added for microclimate management.

International guideline 2019

Recommendation 7.3: For individuals with obesity, select a support surface with enhanced pressure redistribution, shear reduction and microclimate features (Good Practice Statement).[7]



Auralis® Plus
Bariatric Alternating Pressure System



Skin IQ® 1000
Bariatric Microclimate management coverlet with Negative Airflow Technology



AtmosAir® Plus
Bariatric Hybrid Mattress

Repositioning, movement and care procedures in bed

Mobility Level	Albert	Barbara	Carl	Doris	Emma
					
In bed Repositioning		Sliding sheets	Sliding sheets Patient lift system with repositioning sling and transfer sheets	Sliding sheets Patient lift system with repositioning sling and transfer sheets	Sliding sheets Patient lift system with repositioning sling

Plus size patients who cannot change position themselves need to be repositioned to avoid pressure injuries and for other activities of daily living. This requires significant physical effort from caregivers, which can lead to injury. Common repositioning activities could also contribute to pressure injury development due to the increased shear and friction exerted on the skin.

Repositioning in bed can be made easier and safer for both patients and caregivers with the use of appropriate patient handling aids. This may include the use of friction reducing slide sheets and/or passive lifts and slings used to reposition within the bed and transfer out of bed.

During patient handling tasks an abdominal binder/pannus sling may be necessary to support the pannus during repositioning and hygiene care. Consider that the weight of a limb is generally 16% of the total body weight; therefore, the limb of a 159 kg (350 lbs) person weighs at least 28 kgs (62 lbs) increasing the risk of static overload to the caregiver and risk of injury.

To help reduce this risk a limb sling can be used with ceiling lifts and mobile lifters to raise and support the legs for purposes of assessment or during care procedures.



Maxi Sky 2 Plus with bariatric disposable repositioning sling



Maxi Sky 2 Plus with bariatric sling



Maxi Sky 2 Plus with limb sling

Lateral transfer out of bed

Mobility Level	 Albert	 Barbara	 Carl	 Doris	 Emma
Showering		Sliding sheets	Sliding sheets Air-assisted transfer device Patient lift system with repositioning sling and transfer sheets	Sliding sheets Air-assisted transfer device Patient lift system with repositioning sling and transfer sheets	Sliding sheets Air-assisted transfer device Patient lift system with repositioning sling and transfer sheets

When plus size patients require lateral transfer from the bed to another flat surface there is a growing trend for the use of air assisted lateral transfer devices that utilise air to decrease friction and result in ease of movement of patients while in a supine position. Air assistance also reduces the effort required by caregivers to complete the lateral transfer.

Caregiver feedback considered air-assisted devices "best-in-class" for overall comfort, ease of use, effectiveness in reducing injuries, time efficiency, and reducing patient risk for this activity.[8] Use of a Passive lift and repositioning sling is another alternative for lateral transfer out of bed.



AirPal Air Assisted Lateral Transfer



Maxi Air Air Assisted Lateral Transfer



Maxi Sky 2 Plus Ceiling lift with repositioning sling

General transfers out of bed

Mobility Level	Albert	Barbara	Carl	Doris	Emma
					

General transfer					
	Walking stick	Walking frame	Standing and rising aid	Passive mobile lifter Ceiling lifter	Passive mobile lifter Ceiling lifter

It is important to promote functional independence wherever possible to avoid the negative impact of immobility. For more independent patients, walking aids and adaptations to assist with activities of daily living are fundamental. For those requiring more assistance, standing and raising aids are associated with quality indicators of mobility.

For passive patients unable to weight bear, the use of mechanical lifting equipment (in addition to other assistive patient handling devices) is a key component of any safe patient handling or caregiver injury program[9].

- Caregivers should check walking aids are of the right dimensions and have a sufficient safe working load to enable safe use.
- Use hoists with appropriate shape and width spreader bars/sling attachment points and sling design to allow for comfort and good positioning
- Dual cassette ceiling lifts can offer greater comfort and also improved repositioning for lying to sitting and vice versa
- Ensure seating is of an appropriate dimension to avoid constant skin contact with the chair sides which could lead to pressure injuries. Assess body shape to ensure a level of recline is allowed to improve patient comfort
- Safe Working Load of Maxi Sky 2 Plus bariatric ceiling lift is 454 kg (1000 lbs)



Maxi Sky 2 Plus ceiling lift with repositioning sling



Tenor Mobile Floor Lifter with bariatric sling



Sorrento Bariatric Chair

Showering and toileting

Mobility Level	 Albert	 Barbara	 Carl	 Doris	 Emma
Showering	Shower commode chair	Shower commode chair	Shower commode chair	Shower commode chair	In bed hygiene
Toileting	Shower commode chair	Shower commode chair	Shower commode chair	Shower commode chair	In bed hygiene

Hygiene care is more than just keeping the skin clean. Having the opportunity to shower or bathe can have a significant impact on someone's general well being and quality of life. Depending on the clinical presentation of the patient, hygiene care may be performed on the bed or in the shower room.

When hygiene care is delivered at the bedside this increases the risk of static overload for the caregiver and subsequent risk of injury. Use of a passive lift and appropriate slings including limb slings to aid in repositioning during the hygiene process are important considerations.

Special attention should be paid to cleaning, drying and protecting skin in deep skin folds, under the pannus and the perineal area. Skin to skin contact should be avoided for areas at particular risk of maceration.

For those patients who can walk or be transported to the shower room a regular shower should be encouraged to assist with skin hygiene. Caregivers should assess the type of assistance the patient needs including equipment that may be required to support the activity in safety and with dignity. Patients have often created their own methods to aid the hygiene process including use of long brushes, hand-held showerheads, while support with a specialist hygiene chair can be very beneficial.

Shower, hygiene and commode seating should cater for the persons body shape, weight distribution, actual weight and functional mobility. Open sides and adjustability are key for access and comfort.



Carmina® Bariatric shower commode chair



Maxi Transfer Sheet with MaxiMove

Environment and equipment

Equipment solutions available for plus size people need to take into consideration not just the persons weight but also their shape and their patterns of movement.

Using equipment safely also means that environment requirements must also be considered:

- Space for assistive devices
- Pathways clear
- Width of doorways
- Changes of levels/ramps to be avoided
- High dependency patient requires more space to accommodate caregivers and handling equipment
- Flooring capacity (width of joists, span and point loading). weight, size and safe working load of equipment (to include person, caregivers and equipment)
- Ceiling capacity (width of joists and span)
- Fixed furniture safe working load (toilets/handrails and position/location)
- Position of fixed furniture (toilets/handrails etc.)
- Flooring type/thresholds
- Internal elevator capacity, dimensions – height, depth width to include person, caregivers and equipment

This guide has been developed to highlight factors for consideration and help identify equipment that may be required to support plus size patients with different levels of functional mobility who may also be at risk from complications of immobility and other obesity related issues.

To gain further insights you may wish to watch an interview conducted with Tracey Carr a plus size patient who provides feedback for clinicians in this video.

www.arjo.com/bariatric



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At Arjo, we believe that empowering movement within healthcare environments is essential to quality care. Our products and solutions are designed to promote a safe and dignified experience through patient handling, medical beds, personal hygiene, disinfection, diagnostics, and the prevention of pressure injuries and venous thromboembolism. With over 6000 people worldwide and 60 years caring for patients and healthcare professionals, we are committed to driving healthier outcomes for people facing mobility challenges.

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