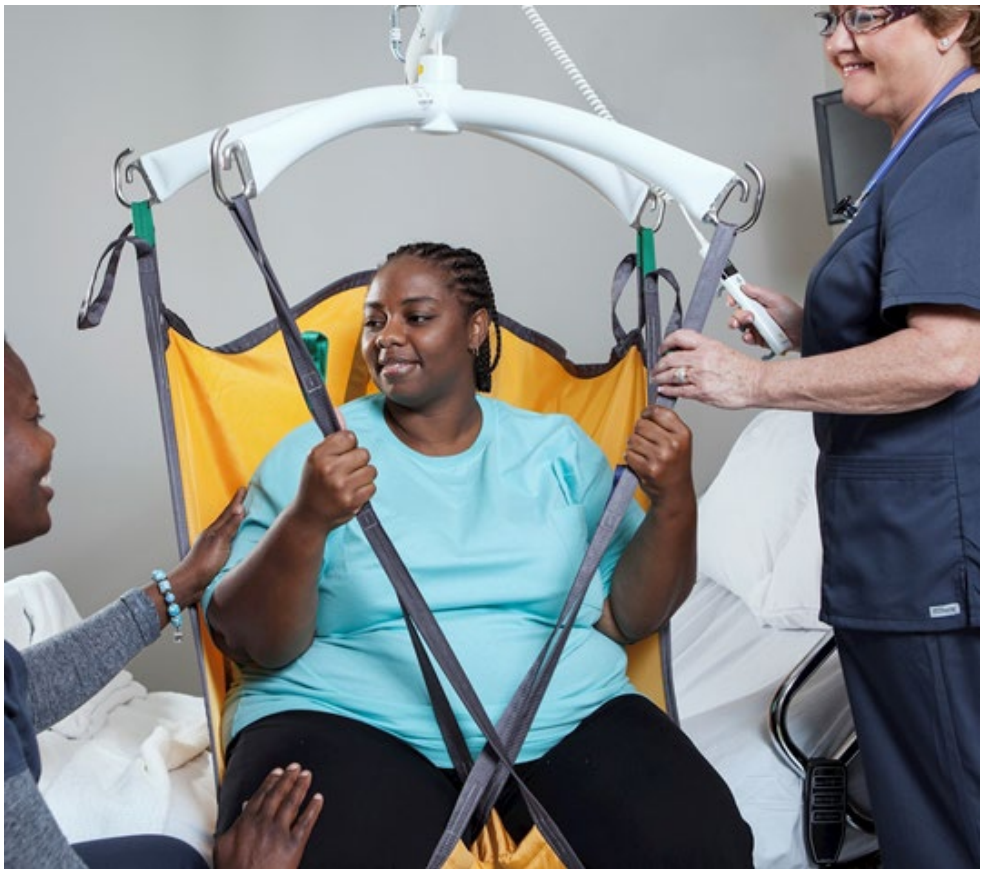
Independent Living Centre Tasmania

# Bariatric equipment and considerations

People who are bariatric require specific equipment adapted to their needs. It is important to keep in mind certain considerations when selecting the equipment.



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Launceston, Hobart, Ulverstone

# Considerations for bariatric equipment

Bariatric is the term associated with people who are exceptionally large, clinically severely obese or extremely overweight. It is generally accepted that bariatric refers to people who fit two or more of the following criteria: (a) weigh 120 kg or more, (b) have a BMI (body mass index) of 30 or higher, (c) have a seated hip width of 50 cm or wider.

## Complications

People may be bariatric in size due to a medical condition, an unhealthy diet and/or insufficient physical activity. They are at high risk of hypertension, heart disease, stroke, diabetes (type 2) and kidney failure. Other risk factors include gall bladder disease, osteoarthritis, degenerative joint disease, sleep apnoea, incontinence, and some forms of cancer, e.g. colon cancer.

## Signs and symptoms

These medical conditions combined with being extremely overweight may cause a person to tire quickly, be short of breath, experience joint or back pain, have restricted movement of arms and legs and have difficulty with mobility. This greatly limits a person's ability to participate in household and community activities and makes daily-living activities such as dressing, toileting and showering very difficult. The person may experience low self esteem, depression, anxiety and social isolation.

## Bariatric equipment

Bariatric equipment is designed for users of a large build, generally over 120 kg in weight and while Australian Standards provide guidelines for home design it may not be possible to adhere to them. Consultation with an occupational therapist is recommended

# Considerations for equipment selection

## Load capacity

Load capacity is the maximum user-weight recommended by the manufacturer for a product. Load capacity may also be written as SWL or load test. The products SWL should be a minimum of 10% above the user's weight. This allows for weight increase and the item will not be used at maximum capacity, which may reduce its working life.

## Space requirements

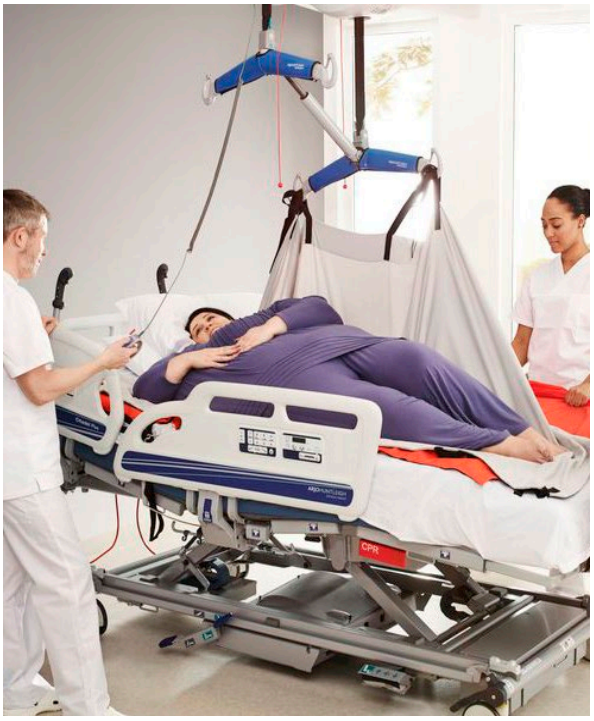
- Can the user reach and operate movable armrests, brake handles and push rims?
- The overall width of equipment needs to be looked at in relation to the environment. A mobile piece of equipment needs to pass through doorways and be used in various locations.
- Check the seat width and overall width. Some equipment may feature a standard seat only but have a wider frame with additional space between the armrests. Will this be adequate and comfortable?
- If armrests are a feature of the item, is the clear width between the armrests adequate?
- Is the seat depth adequate to allow for full support of the lower limbs, and for placement of soft tissue both at the rear of the client and behind their knees and calves? This may influence the position and support of the backrest.

# Points to consider for home modification

- Will the environment support the combined weight of the equipment and the user? Are reinforcements required?
- The carer's own physical capabilities need to be considered. Additional carers may be required.
- Wheels at the rear of an unoccupied piece of equipment may allow it to be tilted and wheeled along rather than carried, e.g. on some lounge chairs. Use of a trolley may be an option.

# Manual handling

- More space will be required in rooms and passageways due to the size of the equipment, the bariatric person's size, additional carers present, and the area required for working around the equipment.
- The load capacity of floors, including upstairs areas, and the shower alcove need to be sufficient to support the combined weight of the equipment, the bariatric person, and the carers.



# Dual or multi-function equipment

Equipment with more functions means that there is less volume of equipment to fit into a space, costs may be reduced, and fewer transfers may be required.

E.g. A mobile shower chair can be used in the shower, over the toilet, or as a bedside commode.

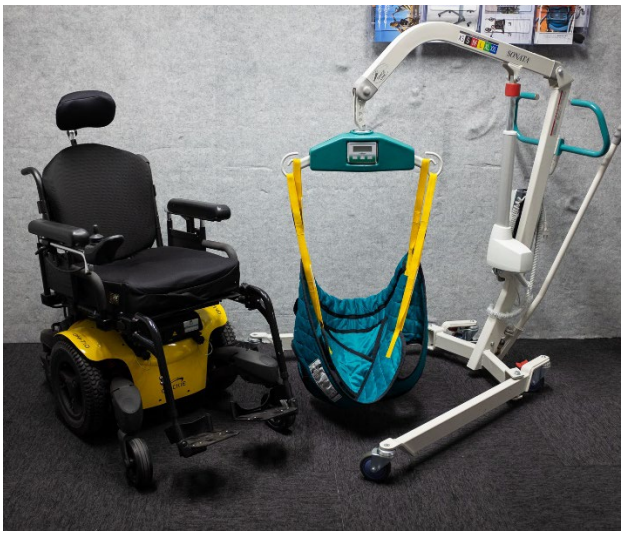
## Custom made

Where commercially available equipment is not suitable, manufacturers may be able to custom build equipment to suit an individual's requirements, i.e. customised for the person's size and/or weight. Custom-built items include walking frames, shower chairs, chairs, over toilet seats and wheelchairs.

Bariatric equipment is generally more expensive than similar equipment with lower load capacity, especially if custom-made.

## Hiring equipment

When deciding whether to buy or hire, consider the length of time the equipment is required, purchase compared with rental cost, where the equipment will be stored and ongoing cleaning and maintenance requirements.



## General considerations

- All components of a piece of equipment need to support the person's weight, e.g. screws and material.
- Is the strength, safety, and durability of the item adequate for consistent use?
- Is the frame made of aluminium or steel? Reinforcement may be required and may increase the overall weight of the item. Rigid frames are usually stronger than folding frames with moving parts.
- Maintenance and review: If the equipment is working under higher loads, even if rated to a high load capacity it is worthwhile checking regularly for signs of wear and tear.

- Consider impact forces on the equipment during use, e.g. heavy client transfers when the client drops into the seat, as well as rotation forces such as those occurring when the person shuffles backwards and forwards.
- Pressure care: Friction may occur if the person's thighs rub against the side of the seat or the armrests

## Weighing devices for wheelchair users and standing or seated people

- There are scales for people in wheelchairs, when standing and when seated in a weighing chair.
- A weighing scale is available for weighing a person in a sling suspended by a hoist

## Suggested reading

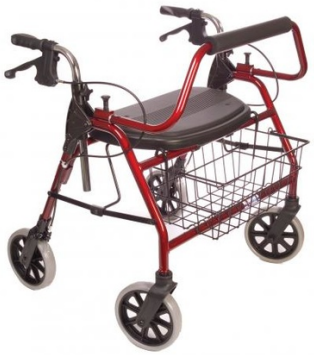
Occupational Therapy evidence-based practice guidelines for the prescription of bariatric home modifications – home modifications for bariatric clients, Peninsula Health Care Network (2015). This publication can be downloaded from http://homemods.info/resources/publications-by-others/access/occupational-therapy-evidence-based-practice-guidelines-for-the-prescription-of-bariatric-home-modifications#main-content

## Acknowledgment

ILC Tas wishes to acknowledge that ILC South Australia has kindly given permission for use of material in their disability information sheet Obesity: equipment for people who are very overweight (bariatric) in the preparation of this publication. See https://www.sa.gov.au/__data/assets/pdf_file/0005/7790/obesity-equipment-for-people-who-are-very-overweight-bariatric.pdf

# Equipment for use by bariatric people

Many commercially available items of equipment have been designed for use by a person who is bariatric (weighs more than 120 kg). Other equipment not specifically identified as suitable for bariatric users may also meet bariatric load capacity requirements, but the specifications and overall suitability of these items should be checked.



## Mobility equipment

### Walking aids

- Pick up frames are generally lighter depending on the type of material used.

Height adjustable/folding frames may not be as strong due to potential weakness at the joins.

- Is there enough space to walk and turn and have comfortable placement of hands on the handgrips?
- Four-wheel walkers with a seat may be larger to incorporate adequate seat width, lower limb clearance and stability
- Lock-down brakes will be more effective in preventing movement of the walker when stationary and during transfers.

### Manual wheelchairs

- Folding wheelchairs may have double or triple cross bracing underneath the seat.
- Fixed non-folding frames can provide greater strength but make it more difficult to transport and store.
- A larger reinforced wheelchair is heavier to push or self-propel.
- Solid tires with wide treads may be more durable and may assist in spreading the load.

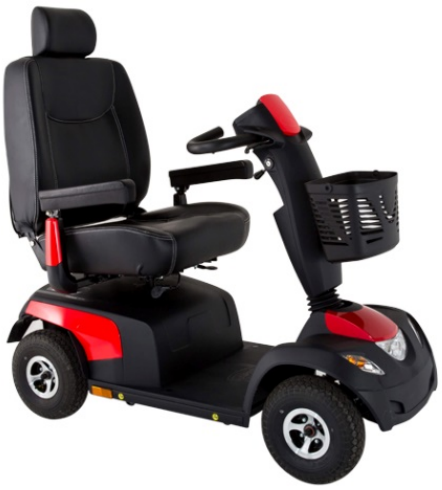
- Powered conversion kits can be added to provide more power to negotiate ramps and hills etc.
- For armrests and footrests, consider the design (fixed or adjustable), number of joins and downward pressure as these may be potential areas of weakness. Ensure soft tissue does not become entrapped.

## Powered wheelchairs

- Does the joystick controller mount need to be reinforced if used for push-up support during transfers?
- A single footplate may facilitate better weight distribution than separately hung footplates.
- Will the motor provide hill climbing capacity, as well as adequate power on level terrain?

## Scooters

- Consider the length and width of the frame when driving on the footpath and navigating around corners.
- Four-wheel scooters may be preferable to reduce the risk of sideways tipping
- Positioning the seat to the rear of the scooter may cause tipping / instability.
- Public transport: Be sure to check the load capacity of scooter and user combined when using public transport and when using a vehicle platform hoist.
- Vehicle Registration: Some scooters with high load capacities are capable of speeds faster than 10 kph and need to be registered under Tasmanian Road Rules.

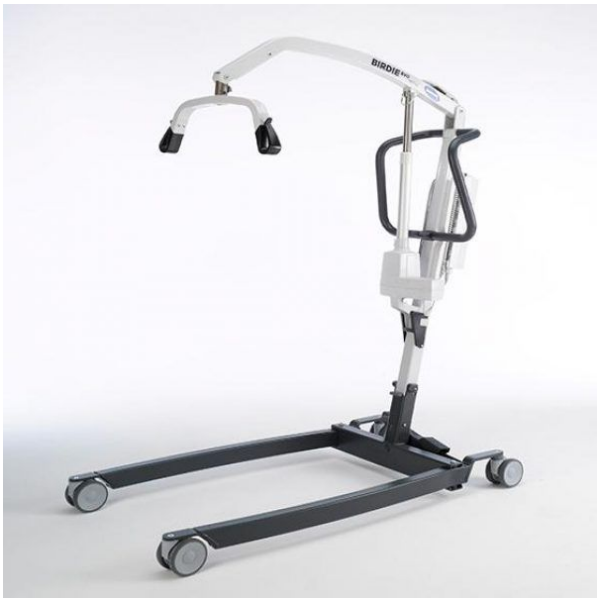


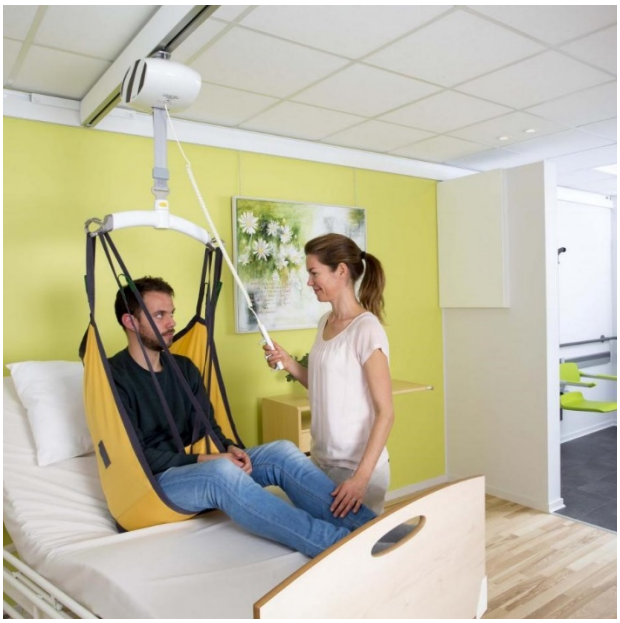
# Hoists and slings

To reduce the effort required by carers to move a bariatric client a bariatric hoist with power-assisted lifting can be used. There are ceiling hoists suitable for bariatric clients that provide powered horizontal movement back and forth along the track as well as the normal powered vertical lifting movement.

# Mobile hoists

- Consider the size, type, and range of the hoist for user and carer. Will it be comfortable and easy to use?
- Is there enough space between the mast of the hoist and the person being hoisted?
- A dual boom may be used for additional strength and a 4-point spreader bar may be more comfortable.

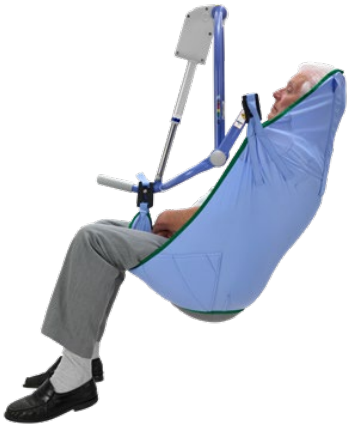




# Ceiling hoists

- You will need a certified structural engineer to check load bearing or if reinforcements are required.
- Twin ceiling hoists may be used to distribute the weight being lifted.

## Slings



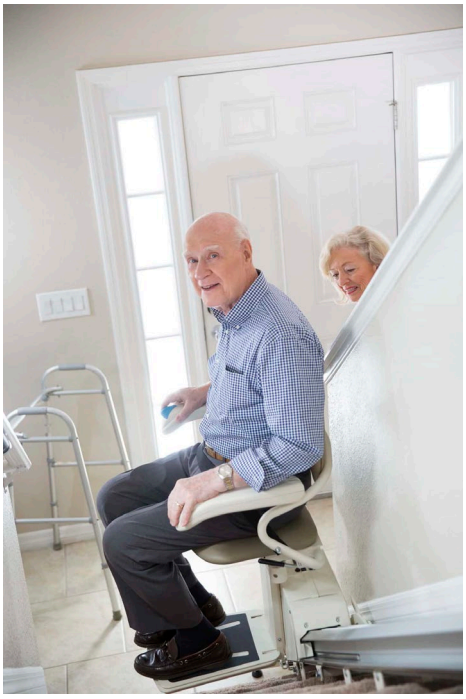
- Check the load capacity of the sling as well as the hoist and consider the sizing and comfort of the sling.
- Bariatric slings often have reinforced stitching and additional padding and there is a design to accommodate large thighs. Customized slings are available.

## Transfer aids: from floor to seat height

- An inflatable mattress system or mobile lifting chair lifts a person from the floor to seat or bed height.
- An electronic height adjustable chair can be used to raise or lower a person to/from the ground.

## Powered equipment to assist moving equipment:

- An electrically powered trolley assists carers to transport beds, wheelchairs, and tub chairs.



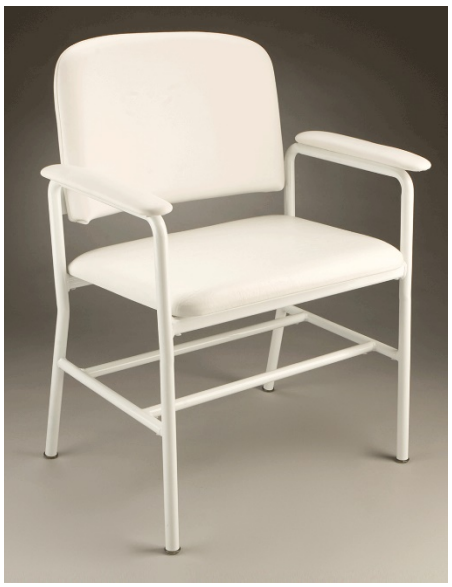
## Lifts

- Supplier stated load capacities for stairway chair lifts and portable stair climbers (wheelchair plus occupant) are often below bariatric weight capacity.
- Load capacities for stairway wheelchair lifts, vertical wheelchair lifts (including vehicle lifts) and vertical passenger lifts are above bariatric weights, but the overall load capacity must include the weight of a wheelchair if used.

## Shower chairs (static)

- Check the load capacity of the sling as well as the hoist and consider the sizing and comfort of the sling.
- Bariatric slings often have reinforced stitching and additional padding and there is a design to accommodate large thighs. Customized slings are available.

## Shower chairs (mobile)

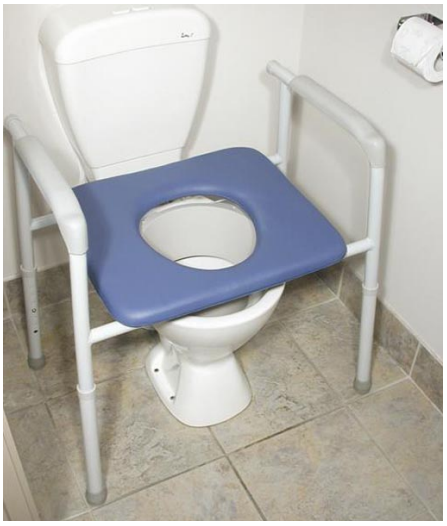


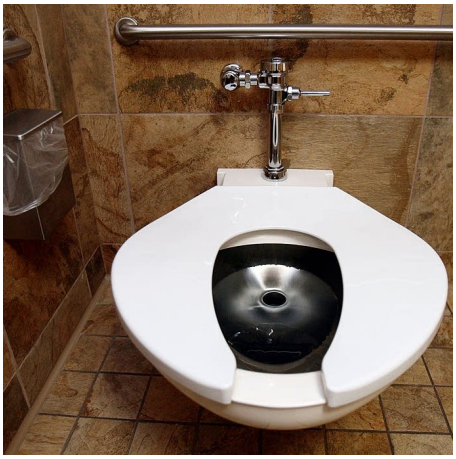
- Flip back armrests may not be able to take as much weight as single or double mounted armrests during transfers. Consider the risk of skin entrapment when moving armrests.
- Consider size and type of castors.
- A sliding single steel footrest may spread the load of the lower limbs more efficiently than single flip-up footplates.

## Bathing seats

- A grab rail attached to the bath board may reduce the seat width available.
- A bath transfer bench could be used in the shower due to the wider seat area it provides.
- Wall mounted seat: Can the wall hold the seat weight and the user's weight?

## Toilet seat raisers, bedside commodes and bidets





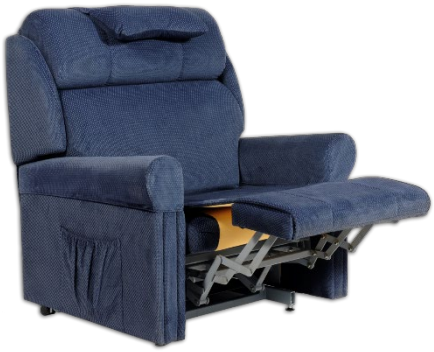
- Toilet design may determine the selection of toileting aids.
- A concealed cistern creates additional room at the rear of the toilet seat.
- A freestanding over toilet aid may provide a wider seat base.
- Aperture size of toilet seat raisers and bedside commodes needs to have adequate room for hygiene purposes and prevent the opening from being occluded or restricted.
- A bidet could be considered if access for hygiene is restricted. Bidets that wash and air dry a person after toileting are available with a load capacity suitable for some people of bariatric size.

# Seating and Sleeping

## Seating: dining, lounge, office etc.

- Durability of materials: A webbing seat base is generally not as durable as a solid wooden seat base.
- Fixed frame vs. adjustable frame: Telescopic height adjustment of the legs can create areas of weakness reducing the strength of the chair. Does the chair frame need to be reinforced?
- Consider the chair's stability during transfers. Splayed legs or a wider base may enhance this.

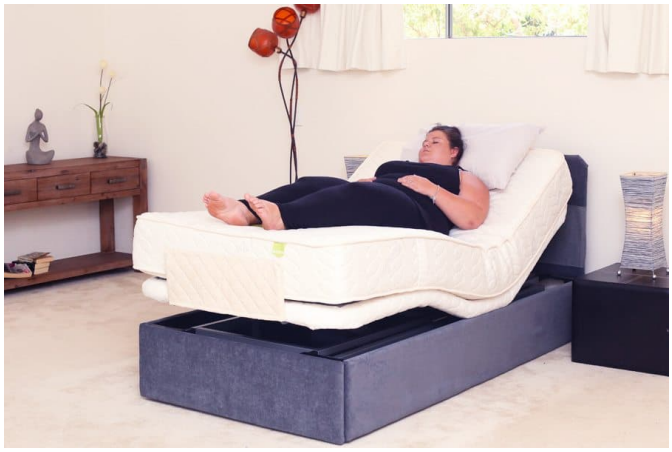
Does the user require pressure relieving qualities within the seating? Foam, Gel, Air etc.

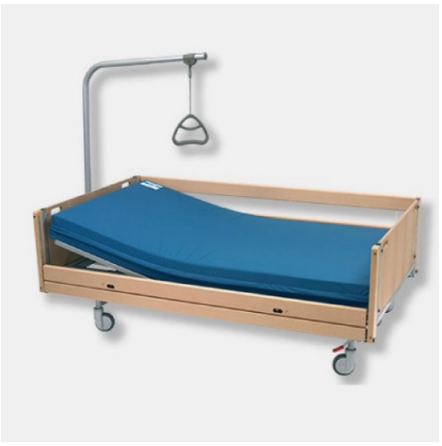


- Can the backrest height and depth be adjusted to enable soft tissue clearance at the rear of the chair, but to also allow contact with the backrest? Check the stability of the chair when the backrest is reclined.
- Does the motor have enough capacity to operate through all the features for load being lifted?

## Electrically operated beds

- Consider frame strength and capacity of motor. Several motors may be required.
- Use of an angle adjustable backrest section may assist respiratory function.
- The adjustability of the bed may also assist transferring in and out of the bed.



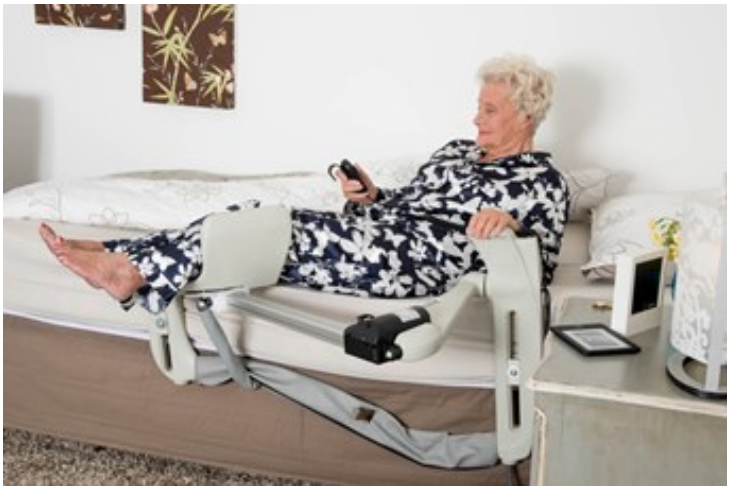


## Pressure mattresses

- Foam and alternating air mattresses with bariatric load capacities are available.

# Beds: aids to assist turning and leg lifting

- Some beds can accommodate an electric side to side turning function to enable weight transfer.
- An electrically operated leg lifting platform lifts the person's legs onto the bed and can assist people with leg oedema or swelling. Supplier load capacity for these items generally refer to the leg being lifted, only.



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# More Information

For advice about bariatric equipment or other assistive technology, please contact ILCT.

- **Ring 1300 885 886 to speak to a health professional.**
- **Visit our website www.ilct.com.au or email ilc@ilct.com.au.**
- **Make an appointment to visit one of the displays centers: Launceston, Hobart, or Ulverstone.**
- **ILCT visits communities around Tasmania. Contact us to find out when we will be in your area.**

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