

# Considerations Around Bariatric Equipment

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**Clinical Services Advisors**

**Date: 20 March 2024**

# Housekeeping



**Check speakers are on**



**Use other dial-in methods**



**Mic is on mute**



**Use chat for questions – no client information**



**Cameras are off**



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<https://mailchi.mp/enable.co.nz/assessor-clinical-education>

# Objectives

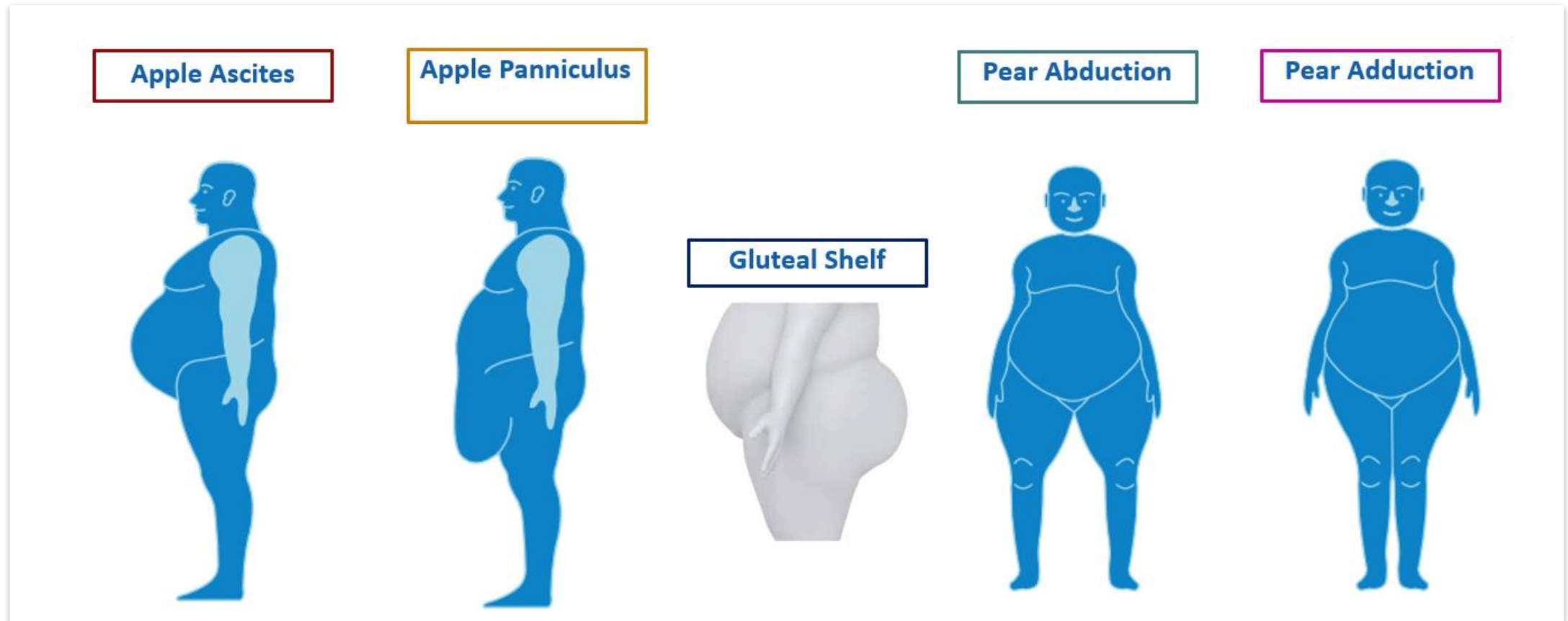
- Increase awareness of unconscious bias and language
- Review body shapes and impact on:
  - positioning and movement
  - equipment selection
- Review pressure injury risk
- Review considerations around equipment
- Become familiar with a range of available products & resources

# Introduction

- Unconscious bias
- Assumptions
  - Something a person can easily control
  - Reversible

"Many significant contributors to obesity are beyond the control of individuals"
- Language
- Video - <https://www.arjo.com/int/services-solutions/healthcare-solutions/bariatric-room-solutions/>

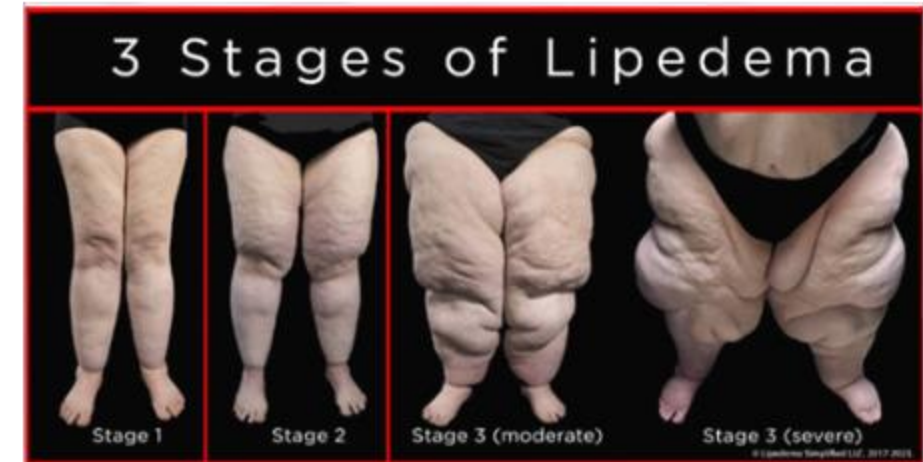
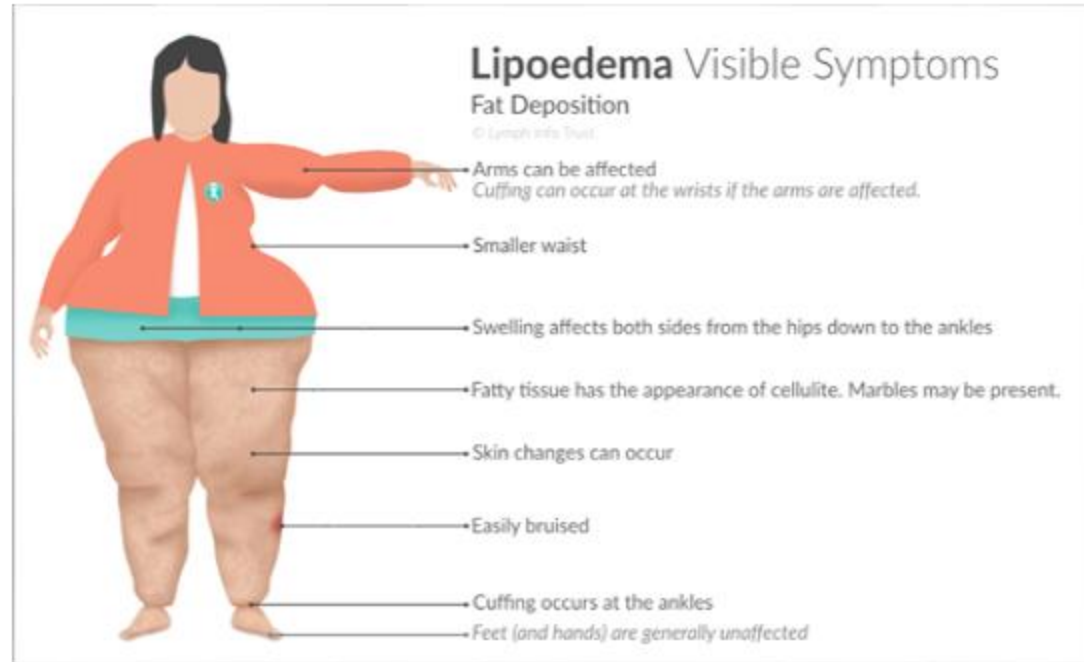
# Body Shape



<https://www.cubro.co.nz/assets/Uploads/Cubro-bariatric-solutions-guide.pdf>

[https://invacarerest.com/assets/documents/knowledge\\_bank/Plus-Size%20Body%20shapes%20KB44.pdf](https://invacarerest.com/assets/documents/knowledge_bank/Plus-Size%20Body%20shapes%20KB44.pdf)

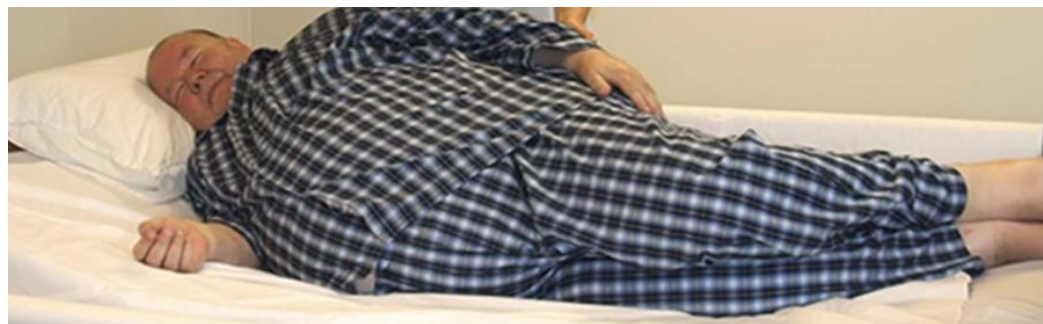
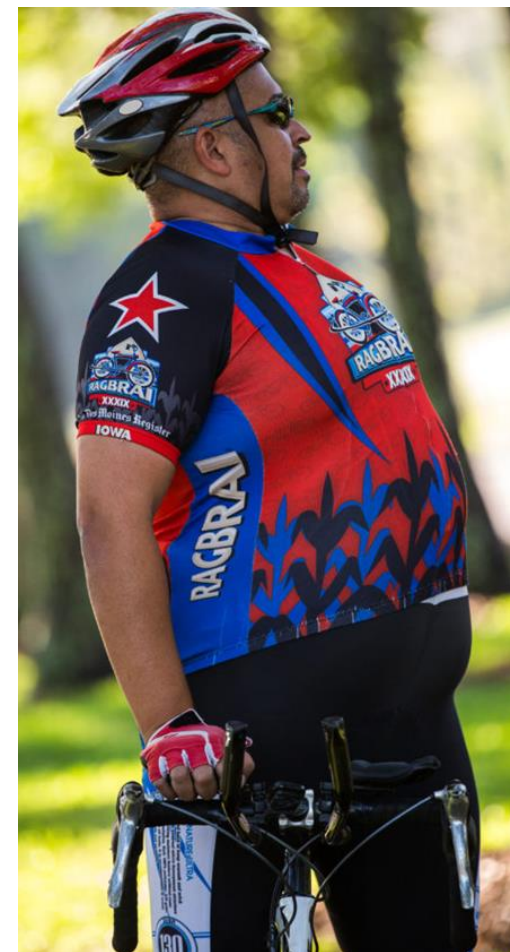
# Body Shape - Lipoedema



- Different to obesity but can co-exist
- Often mis-diagnosed as over-weight
- Can affect up to 11% of women

# The body in:

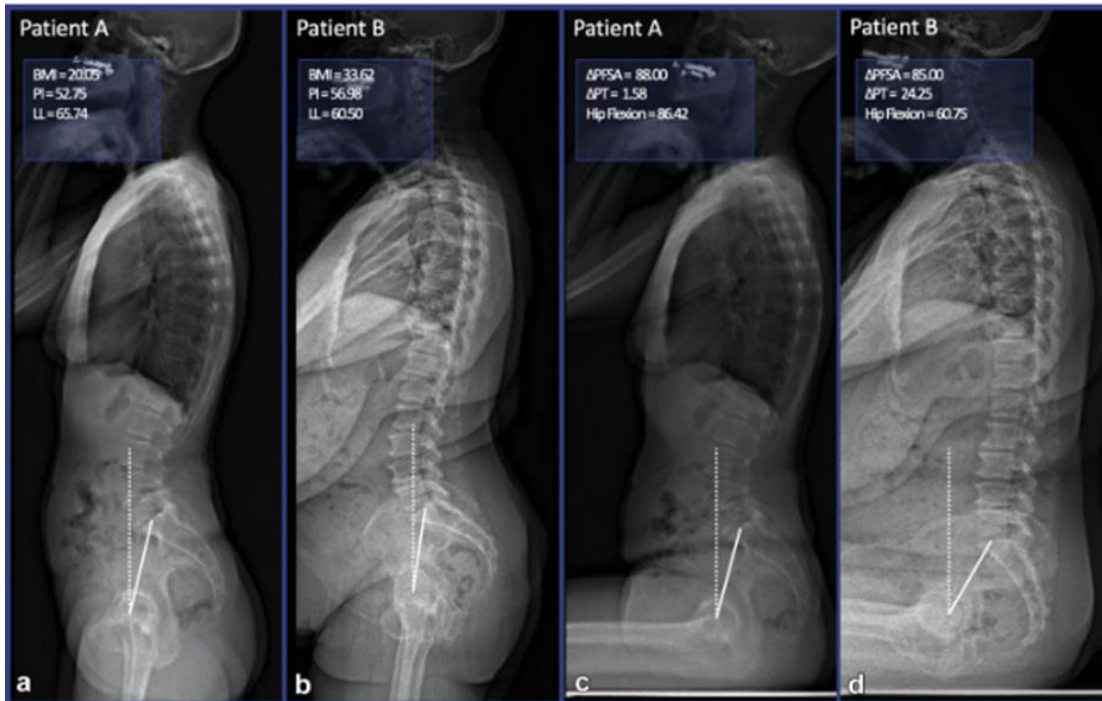
- standing
- sitting
- lying
- moving



<https://www.vendlet.com/products/vendlet/vendlet-bari>

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# Sitting and Standing Alignment



Significant differences in sitting alignment

Change in alignment from sitting to standing

More posterior pelvic tilt when transitioning from standing to sitting

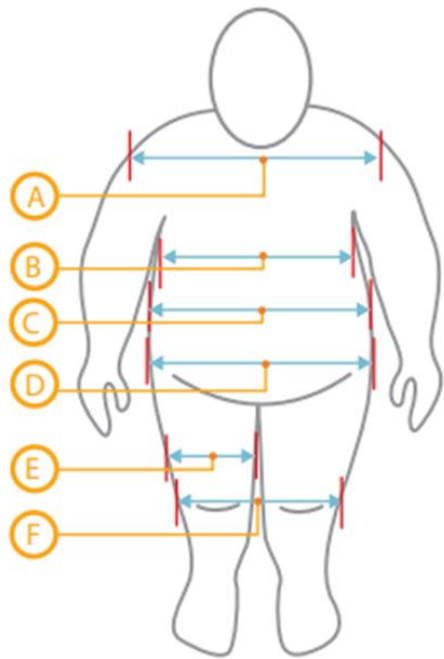


# Assessment

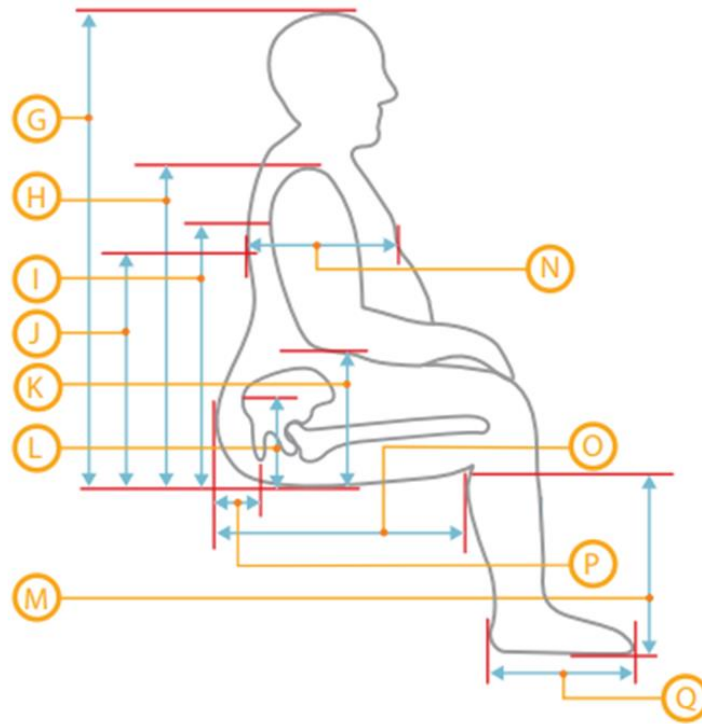
- Reason for referral
- Overall assessment vs equipment specific needs
- Goals
- *Weight*
- *Body dimensions - sitting/standing/lying*
- Range of movement
- Active participation

# Seating measurement - resources

CLIENT NAME \_\_\_\_\_

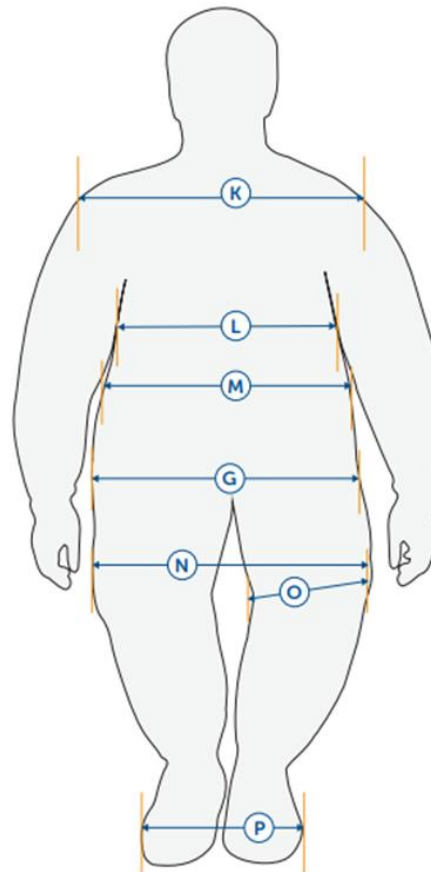
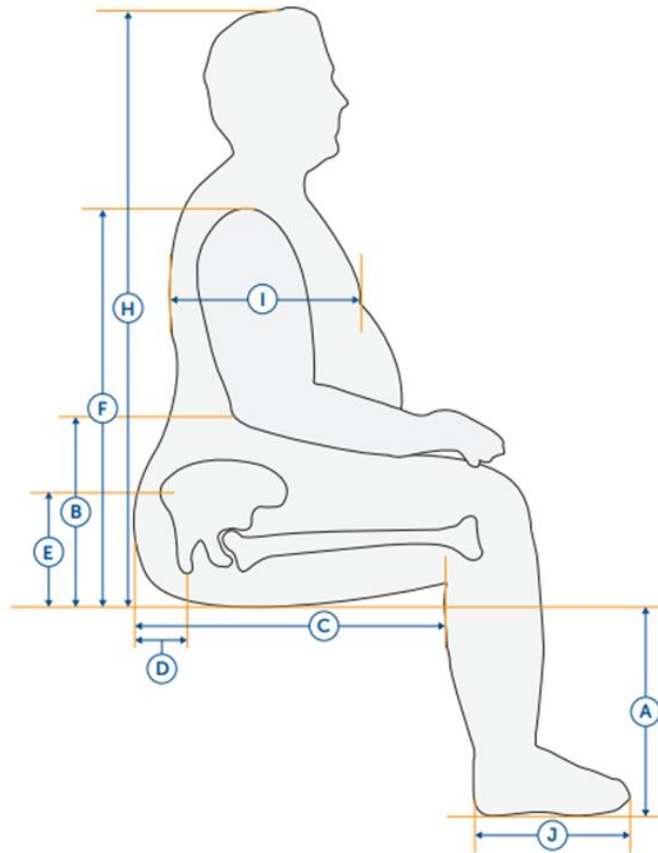


DATE \_\_\_\_\_



- A. SHOULDER WIDTH: \_\_\_\_\_
- B. CHEST WIDTH: \_\_\_\_\_
- C. WAIST WIDTH: \_\_\_\_\_
- D. HIP WIDTH: \_\_\_\_\_
- E. INDIVIDUAL KNEE WIDTH: \_\_\_\_\_
- F. EXTERNAL KNEE WIDTH: \_\_\_\_\_
- G. SITTING HEIGHT: \_\_\_\_\_
- H. SHOULDER HEIGHT: \_\_\_\_\_
- I. AXILLA HEIGHT: \_\_\_\_\_
- J. SCAPULA HEIGHT: \_\_\_\_\_
- K. ELBOW HEIGHT: \_\_\_\_\_
- L. PSIS HEIGHT: \_\_\_\_\_
- M. LOWER LEG LENGTH: \_\_\_\_\_
- N. TRUNK DEPTH: \_\_\_\_\_
- O. BUTTOCK THIGH: \_\_\_\_\_
- P. ISCHIAL DEPTH: \_\_\_\_\_
- Q. FOOT DEPTH: \_\_\_\_\_

# Seating measurement - resources



## REQUIRED MEASUREMENTS

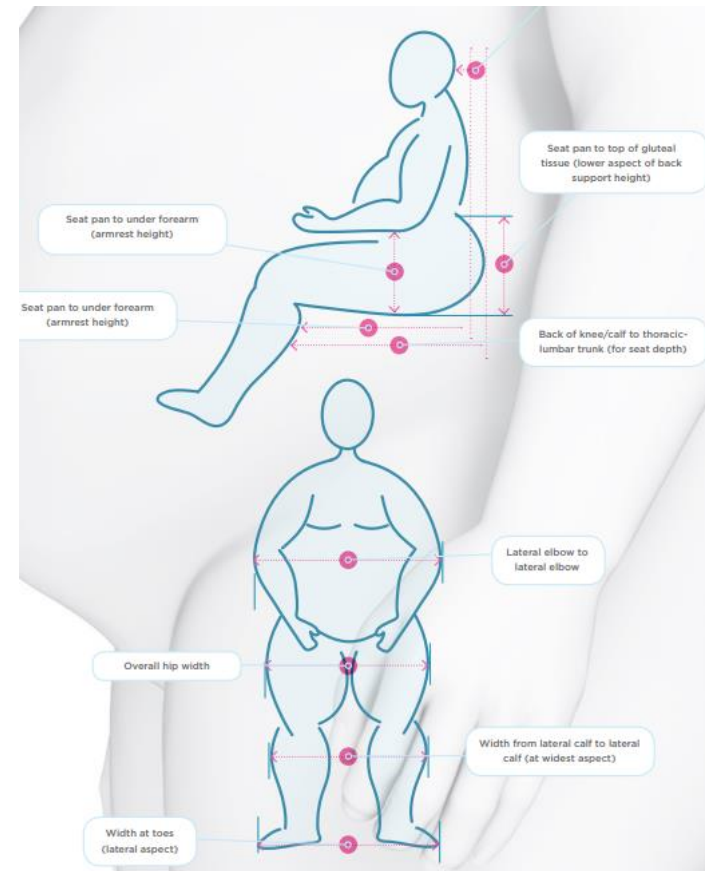
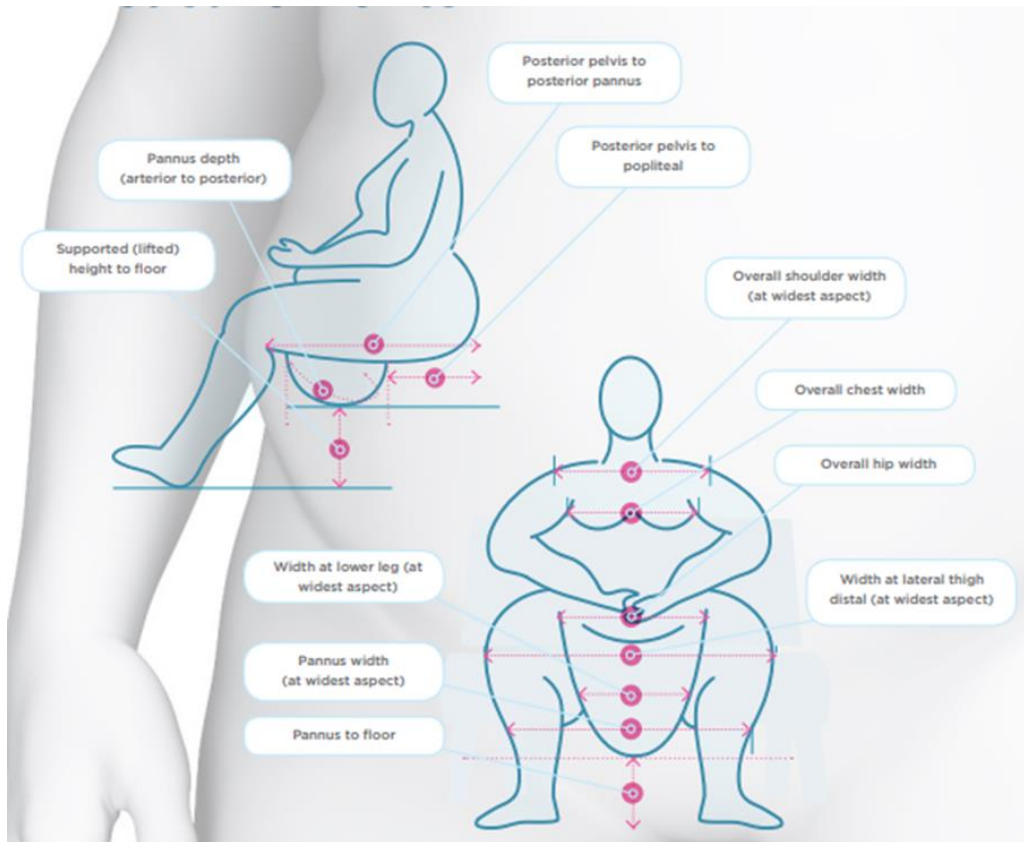
- A. Lower Leg Length: \_\_\_\_\_
- B. Elbow Height: \_\_\_\_\_
- C. Buttock to Thigh: \_\_\_\_\_
- D. Ischial Depth\*: \_\_\_\_\_
- E. PSIS Height\*: \_\_\_\_\_
- F. Shoulder Height\*: \_\_\_\_\_

\* Required in cases where the client exhibits a leg length discrepancy, pelvic rotation, pelvic obliquity or any other form of asymmetry.

## OPTIONAL MEASUREMENTS

- G. Hip Width: \_\_\_\_\_
- H. Sitting Height: \_\_\_\_\_
- I. Chest Depth: \_\_\_\_\_
- J. Foot Size: \_\_\_\_\_
- K. Shoulder Width: \_\_\_\_\_
- L. Chest Width: \_\_\_\_\_
- M. Waist Width: \_\_\_\_\_
- N. External Knee Width: \_\_\_\_\_
- O. Individual Knee Width: \_\_\_\_\_
- P. External Feet Width: \_\_\_\_\_

# Seating measurement - resources



# Seating measurement

## Cushion Contouring



## Seat depth



[file:///C:/Users/christar/Downloads/Spex-XLella-Fitting-Guide-20230718\\_EN\\_v1.pdf](file:///C:/Users/christar/Downloads/Spex-XLella-Fitting-Guide-20230718_EN_v1.pdf)

# Lying measurement

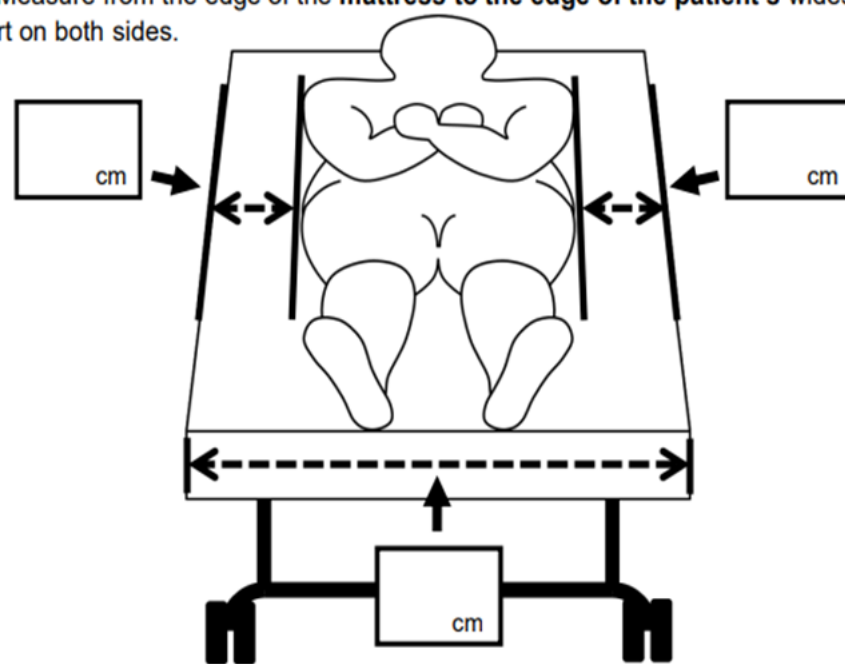
1. Patient's height?  cm

2. Patient's weight?  kg

3. What is the patient's widest part: shoulders , abdomen  or hips  ?

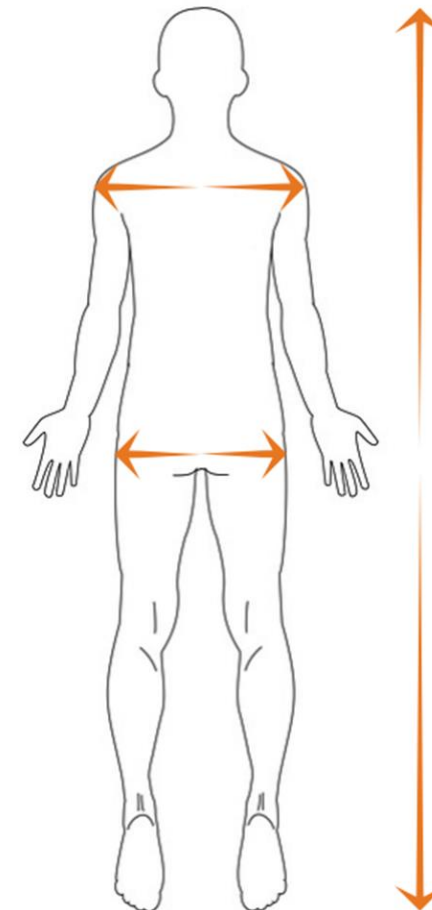
**DO NOT MEASURE GIRTH, CIRCUMFERENCE OR ARMS**

4. Measure from the edge of the mattress to the edge of the patient's widest part on both sides.



The diagram shows a patient lying on a table. Three measurement points are indicated with boxes labeled 'cm': one on the left side of the table, one on the right side, and one at the bottom center of the table. Arrows point from these boxes to the corresponding measurement locations on the table. The patient's arms are crossed over their chest, and their legs are spread apart. A dashed line at the bottom of the table indicates the width of the table.

<https://www.health.nsw.gov.au/pts/Factsheets/bariatric-measurement-guide.pdf>



[https://aci.health.nsw.gov.au/\\_data/assets/pdf\\_file/0008/509966/Bariatric-Patient-Sizing-Chart-V2.0-2019.07.16.docx-003.pdf](https://aci.health.nsw.gov.au/_data/assets/pdf_file/0008/509966/Bariatric-Patient-Sizing-Chart-V2.0-2019.07.16.docx-003.pdf)

# Pressure Injury Risk & Management

- Pressure injuries vs wounds from skin irritation
- Shear & friction
- Microclimate
- Potential malnutrition
- Tissue deformation
- Reduced perfusion
- Overall mobility
- Specialised equipment

Prevention and Treatment  
of Pressure Ulcers/Injuries:  
Clinical Practice Guideline

The International Guideline  
2019



# Bariatric Equipment

Bariatric equipment is often defined by its weight capacity

- Safe working load = SWL
- Load is not equally distributed equal distribution across the equipment
- The shape of the person and the distribution of weight is variable



# Bariatric Equipment - what to consider

Safe Working  
Load

Weight  
distribution

Dimensions –  
width, depth,  
height

Equipment  
weight

Maximum user  
weight

Transportability

Trial of  
equipment

Delivery and  
set up

# Bariatric Equipment - what to consider

## Hygiene Equipment

- Distance between armrests
- Aperture size
- Consider tilt
- Tissue entrapment

## Beds & Mattresses

- SWL – include weight of person, mattress, bed accessories
- Width of bed – person vs carer
- Weight distribution on actuators
- Bed functions promote bed mobility.
- Mattress composition
- Pressure care vs bed mobility

## Seating

- Distance between armrests
- Seat depth
- Back support & body shape
- Distribution of weight
- Height/tilt for transfers

# Equipment – Comparison Charts

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Beds - safe working load  $\geq$  250kg

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Lift out chair - safe working load  $\geq$  200kg

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Mattress - safe working load  $\geq$  250kg

---

Shower and bath equipment - safe working load  $\geq$  180kg

---

Toileting equipment - safe working load  $\geq$  175kg

---

Walking aid - safe working load  $\geq$  180kg



## Beds – safe working load ≥ 250kg

Product name	Bed width	Max mattress width	Safe working load (kg)	Supplier
Activ Care	1070mm		250	Active Healthcare <a href="https://www.activehealthcare.co.nz/products/beds/long-term-care-beds/activ-care/">https://www.activehealthcare.co.nz/products/beds/long-term-care-beds/activ-care/</a>
Homecare HiLo	1070mm		280	Liberty Healthcare <a href="https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Homecare-HiLo-Adjustable-Bed-Brochure.pdf">https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Homecare-HiLo-Adjustable-Bed-Brochure.pdf</a>
Ultra Low adjustable	1070mm		280	Liberty Healthcare <a href="https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Ultra-Low-Adjustable-Bed-Brochure.pdf">https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Ultra-Low-Adjustable-Bed-Brochure.pdf</a>
Tilt adjustable	1070mm		280	Liberty Healthcare <a href="https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Liberty-Tilt-Bed-Brochure.pdf">https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Liberty-Tilt-Bed-Brochure.pdf</a>
LH300	1100, 1200, 1350 & 1400mm		300	Burmark <a href="https://www.burmark.co.nz/product/lh300---300kg-bed--moh-band-2/6/1/">https://www.burmark.co.nz/product/lh300---300kg-bed--moh-band-2/6/1/</a>
HC300	1100, 1350, 1400, 1500 & 1600mm		300	Burmark <a href="https://www.burmark.co.nz/product/hc300--300kg/18/1/">https://www.burmark.co.nz/product/hc300--300kg/18/1/</a>
Alrick Bariatric	1390 & 1520mm Max mattress width (1370 & 1500mm)	1370 & 1500mm	300	Cubro <a href="https://www.cubro.co.nz/products/non-logged-in/beds-and-bedroom-equipment/hospital-beds/alrick--bariatric-bed">https://www.cubro.co.nz/products/non-logged-in/beds-and-bedroom-equipment/hospital-beds/alrick--bariatric-bed</a>  <a href="https://www.cubro.co.nz/products/non-logged-in/beds-and-bedroom-equipment/hospital-beds/alrick--bariatric-bed-with-central-braking">https://www.cubro.co.nz/products/non-logged-in/beds-and-bedroom-equipment/hospital-beds/alrick--bariatric-bed-with-central-braking</a>  <a href="https://www.cubro.co.nz/products/non-logged-in/beds-and-bedroom-equipment/hospital-beds/alrick-bariatric-bed-with-trendelenburg">https://www.cubro.co.nz/products/non-logged-in/beds-and-bedroom-equipment/hospital-beds/alrick-bariatric-bed-with-trendelenburg</a>
IC555 Bariatric	1120mm	1070mm	300	Icare <a href="https://icaremedicalgroup.co.nz/product/ic555/">https://icaremedicalgroup.co.nz/product/ic555/</a>
Linet Image 3 XXL	1100mm	1000mm	320	Active Healthcare <a href="https://www.activehealthcare.co.nz/products/bariatric-solutions/bariatric-beds/linet-image-3-xxl-bariatric-hospital-bed/">https://www.activehealthcare.co.nz/products/bariatric-solutions/bariatric-beds/linet-image-3-xxl-bariatric-hospital-bed/</a>
Homecare HiLo	1370 & 1525mm		320	Liberty Healthcare <a href="https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Homecare-HiLo-Adjustable-Bed-Brochure.pdf">https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Homecare-HiLo-Adjustable-Bed-Brochure.pdf</a>
Tilt adjustable	1370 & 1525mm		320	Liberty Healthcare <a href="https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Liberty-Tilt-Bed-Brochure.pdf">https://libertyhealthcare.co.nz/wp-content/uploads/2021/09/Liberty-Tilt-Bed-Brochure.pdf</a>
Octave Bariatric	1190mm	1160mm	350	Invacare

# Wheelchairs & Wheelchair Seating

## Non-list MWC

- **AML Self-propelling**  
SWL 250kg
- **Action Ampla**  
SWL – 300kg
- **9000 Topaz**  
SWL – 318kg & 454kg (HD)
- **Solara 3G (TNS)**  
SWL – 181kg (HD)



## Non-list PWC

- **Meyra XXL**  
SWL – 250kg
- **Quantam 1450**  
SWL – 272kg
- **Glide Centro HD**  
SWL – 250kg



## Back support

- **Xlella range**  
SWL – up to 300kg



- **Jayrange (22”-26”)**  
SWL – 226kg

## Cushion

- **Roho range**  
SWL – unlimited
- **Xlella range**  
SWL – up to 225kg
- **Jaylon (22”-24”)**  
SWL – 227kg
- **Matrx range**  
SWL – 266-272kg
- **Classic cushion**  
SWL – 294kg
- **Dyna-flex**  
SWL – 318kg
- **AML**  
SWL – 266kg
- **Vicair range**  
SWL – 200-2560kg

# Seating

## Orthopaedic/ Rehab Chair



Viking Maxi  
Hilite chair

SWL – 250kg



Viking Maxi  
Rehab Chair

SWL – 250kg



Cobi Rehab  
XXL Chair

SWL – 325kg

## Bariatric Perching Stool



SWL - 255kg



SWL - 310kg

## Office-style chairs



Flexi Plush  
Bariatric chair 300  
SWL – 300kg



Velo Tango 310E  
Bariatric Independence  
Chair  
SWL - 300kg

Disclaimer – accurate as of 20/03/2024

Lift Out Chairs - Comparison Chart - <https://www.enable.co.nz/media/documents/lift-out-chairs-safe-working-load-200kg.pdf>

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# Transfer Equipment



## **Mobile Hoist**

- Forte 320
- Aspire 320
- Arjo Tenor (SWL 320kg)
- Liko Viking XL (SWL 300kg)
- Molift Mover 300



Romedic Re Turn 7600  
(SWL 205kg)



Pontus

Guldmann GH3 Twin



## **Gantry Hoist**

- Molift Nomad 255
- Guldmann GHZ/GH1 (SWL 255kg)
- Ergolet Luna (SWL 275kg)
- Molift Air 300
- Guldmann Pontus 4-post (SWL 350kg)
- Guldmann GH3 Twin (SWL 500kg)

## **Standing Hoist**

- ActivLift 210
- Etac Quick Raiser 205
- Verteo (SWL 230kg)



## **Transfer Board**

- Immedia Butterfly transfer board (SWL 230kg)
- Banana Board (SWL 220kg)



# Other mobility

## Scooter

- **Comet Ultra**  
SWL - 220kg
- **CTM Range**  
SWL – 226-227kg
- **Shoprider TE 889XLSN**  
SWL – 225kg



## Bed Mobility

- **TurnAll Bariatric**  
SWL – 300kg
- **Turn Aid – 350kg SWL**
- **Vendlet Bari– 400kg SWL**
  
- **Bariatric Winged bed lever**  
SWL – 210kgs





# Beyond the equipment

## Physical Environment

- Space/turning circles
- Doorways
- Floor weight loading
- Floor coverings
- Ramp/Lift capacity

## Community Access

- Vehicle / transport capacity -  
<https://www.metlink.org.nz/getting-started/accessibility-guide/>



# Summary

- Be aware of unconscious bias
- Consider body shape
- Gain an accurate weight and body dimensions
- Consider positioning and weight/tissue distribution
- Use a measuring guide
- Be adequately prepared for an assessment
- Consider pressure injury risk and management
- Equipment may be larger and heavier
- Consider whether additional support will be required
- Be aware of available resources
- Look at equipment in the environment of use

"Understanding everyday life of morbidly obese adults-habits and body image" - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3409880/>

"Obesity Stigma: Causes, Consequences, and Potential Solutions" - <https://link.springer.com/article/10.1007/s13679-023-00495-3>

"Guide to Bariatric Transfers and Manual Handling" - <https://www.physicaltherapy.com/articles/guide-to-bariatric-transfers-and-4827>

"Effect of Obesity on Falls, Injury, and Disability" - <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=ac837995e332dd5ff4487a65b0efaea22bc19581>

"Locomotion Mechanics in Obese Adults and Children" - <https://link.springer.com/article/10.1007/s13679-012-0021-z>

"Musculoskeletal Pain, Fear Avoidance Behaviors, and Functional Decline in Obesity Potential Interventions to Manage Pain and Maintain Function" - [https://www.researchgate.net/publication/258061245\\_Musculoskeletal\\_Pain\\_Fear\\_Avoidance\\_Behaviors\\_and\\_Functional\\_Decline\\_in\\_Obesity\\_Potential\\_Interventions\\_to\\_Manage\\_Pain\\_and\\_Maintain\\_Function](https://www.researchgate.net/publication/258061245_Musculoskeletal_Pain_Fear_Avoidance_Behaviors_and_Functional_Decline_in_Obesity_Potential_Interventions_to_Manage_Pain_and_Maintain_Function)

"Obesity Stigma: Important Considerations for Public Health" - [https://www.researchgate.net/publication/258061245\\_Musculoskeletal\\_Pain\\_Fear\\_Avoidance\\_Behaviors\\_and\\_Functional\\_Decline\\_in\\_Obesity\\_Potential\\_Interventions\\_to\\_Manage\\_Pain\\_and\\_Maintain\\_Function](https://www.researchgate.net/publication/258061245_Musculoskeletal_Pain_Fear_Avoidance_Behaviors_and_Functional_Decline_in_Obesity_Potential_Interventions_to_Manage_Pain_and_Maintain_Function)

"Overcoming Weight Bias in the Management of Patients With Diabetes and Obesity" - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4714720/>

"The pressures of obesity: The relationship between obesity, malnutrition and pressure injuries in hospital inpatients" - [The pressures of obesity: The relationship between obesity, malnutrition and pressure injuries in hospital inpatients – ScienceDirect](#)

"The Bariatric Client And The OT Role, Part 2" - <https://www.occupationaltherapy.com/articles/bariatric-client-and-ot-role-5670-5670>

"Working with clients of higher weight in Australia: Findings from a national survey exploring occupational therapy practice" - <https://onlinelibrary.wiley.com/doi/10.1111/1440-1630.12799>

# References

[https://invacarerest.com/assets/documents/knowledge\\_bank/Plus-Size%20Body%20shapes%20KB44.pdf](https://invacarerest.com/assets/documents/knowledge_bank/Plus-Size%20Body%20shapes%20KB44.pdf)

<https://www.sunrisemedical.ca/education-in-motion/clinical-corner/march-2015/seating-and-mobility-considerations-for-individuals-who-are-bariatric,-part-1-body-shape>

<https://www.sunrisemedical.com/getattachment/5f765bd3-c7f1-499b-b522-346f7a8ce6b0/Education-in-Motion-Resources-Other-Articles-Bariatric-Wheelchair-Assessment-Measuring-Guide.pdf>

<https://www.alliedmedical.co.nz/media/8297/wheelchair-measuring-bariatric.pdf>

<https://www.sunrisedice.com/asset-bank/assetfile/87456.pdf>

[https://aci.health.nsw.gov.au/\\_data/assets/pdf\\_file/0008/509966/Bariatric-Patient-Sizing-Chart-V2.0-2019.07.16.docx-003.pdf](https://aci.health.nsw.gov.au/_data/assets/pdf_file/0008/509966/Bariatric-Patient-Sizing-Chart-V2.0-2019.07.16.docx-003.pdf)

<https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>

<https://www.arjo.com/int/services-solutions/healthcare-solutions/bariatric-room-solutions/>

<https://www.acc.co.nz/assets/provider/bc9f7f9b2e/acc6075-moving-guide-bariatric.pdf>

<https://www.cubro.co.nz/resources/knowledge-base-page/bariatric-care/>

<https://www.cubro.co.nz/assets/Uploads/Cubro-bariatric-solutions-guide.pdf>

<https://atsnz.org.nz/wp-content/uploads/2020/11/Bariatric-ATSNZ.pdf>

<https://www.myamericannurse.com/obesity-skin-issues-and-skinfold-management/>

<https://www.obesityaction.org/gallery/?paged=60>

[https://www.invacare.ie/sites/ie/files/csv\\_migration/product\\_docs/sales\\_docs/DSAL008335\\_An\\_introduction\\_to\\_Plus-Size.pdf](https://www.invacare.ie/sites/ie/files/csv_migration/product_docs/sales_docs/DSAL008335_An_introduction_to_Plus-Size.pdf)

<https://www.asphp.org/wp-content/uploads/2011/05/Baraiatrice-SPHM-guidebook-care-of-Person-of-Size.pdf>

# Resources

The logo for Enable New Zealand, featuring the word "Enable" in a large, pink, cursive font, with "NEW ZEALAND" in a smaller, pink, sans-serif font underneath.

# QUESTIONS?

**How to make contact –**

**W: <https://www.enable.co.nz/>**

**E: [acc.advisor@enable.co.nz](mailto:acc.advisor@enable.co.nz)**

**or [CSA@enable.co.nz](mailto:CSA@enable.co.nz)**

**P: 0800 ENABLE (0800 362 253)**