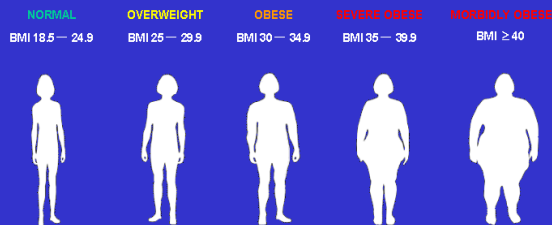


Key Topics in Rehabilitation for Persons with Obesity

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Degrees of Obesity



State of Canadians (Stats. Canada)

2000/2001	2005
14.1% Obese	15% Obese
32.4% Overweight	36% Overweight

Complex Nature of Obesity

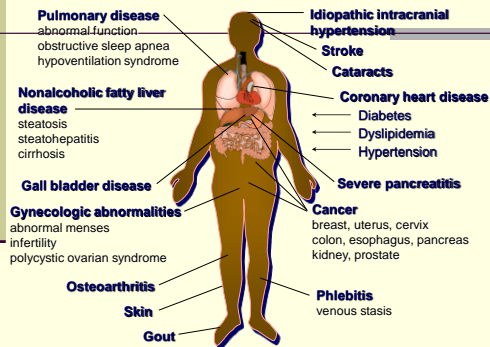
Imbalance of energy intake and energy output:

- Genetics
- Built environment
- Mental health status
- Physical health status
- Social environment
- Neurophysiology

Childhood Obesity

- Ages 2-17 y.o.
 - 18% (1.1million) overweight
 - 8% (500,000) obese
- No gender differences
- Higher rates of overweight and obesity in adolescents: 29% overweight
9% obese

Medical Complications of Obesity



Disability and Obesity

Adults living with severe obesity (BMI >40kg/m²) report similar patterns of time use, quality of life, disability status and social support as individuals with chronic health conditions including rheumatoid arthritis, multiple sclerosis and spinal cord injury.

Ref: Forhan et al (2010) CJOT and OTJR

Implications for Seating and Mobility

- Hamilton Think Tank-2007 (report available at www.obesitynetwork.ca)



Implications for Rehabilitation Practitioners

- Alberta Think Tank-2008 (report available at www.obesitynetwork.ca)

Top three areas for immediate attention:

1. Environmental Scan/Needs Assessment for the creation of a Bariatric Rehabilitation Research Institute involving cost analysis and a scan across the care continuum
2. Develop a post graduate bariatric certificate in the Department of Rehabilitation Medicine
3. Centralize inventory of equipment, 'Best Practices' protocol, and expertise accessible to anyone everyone involved in the area of bariatrics.

Health and well-being

- Participation in daily life contributes to health and wellness through the acquisition of skills & competencies
- Obesity limits the diversity and quality of participation in daily living
- Participation limitations are enhanced by barriers in the built and social environment

Ref. Forhan et al (2010) CJOT, OTJR

Environmental issues: accessibility and mobility

- Obesity is a strong predictor of osteoarthritis of the knees (Davis et al., 1989)
- Obese adults more likely to experience pain in multiple locations (Hitt et al., 2007)
- Obesity is associated with increased incidence of low back pain for >1 day in last 12 months (Shiri et al., 2010)

Bariatric rehabilitation issues at the Glenrose Rehabilitation Hospital

- Skin breakdown, pressure ulcers, cardiac & pulmonary disease
- Reduced ability to assess injury
- Transportation, inaccessibility of DI (MRI, CT)
- Inability to provide normal therapeutic modalities
- Reduced stability and balance adversely effects mobilization, gait training
- Accessibility to pool therapy
- Resource intensive, even to provide basic rehabilitation therapy
- Long LOS, limited LTC able to accommodate

Environmental considerations

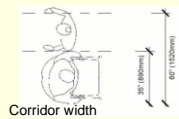
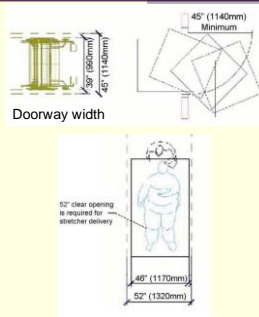
- Built environment is a contributing factor
- Intervention when client is no longer able to be mobile in home environment or neighbourhood
- Accessibility to spaces an issue when seeking health care (primary health, emergency, congregate housing such as assisted living or continuing care)
- Principles of Universal Design are challenged

Current bariatric care requires specialized design



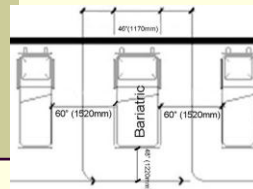
Source: *The American Institute of Architects. (2004). Planning and Design Guidelines for Bariatric Healthcare Facilities.* http://ww2.worksafebc.com/PDFs/healthcare/Bariatric/design_guidelines.pdf

- A description of the patient population – physical and mental capacities, medical conditions;
- The types of procedures being performed and what equipment is required;
- How and where patients are transported (patient flow);
- Dimensions and storage of equipment

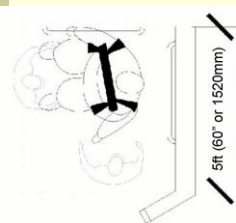


Source: *The American Institute of Architects. (2004). Planning and Design Guidelines for Bariatric Healthcare Facilities.* http://ww2.worksafebc.com/PDFs/healthcare/Bariatric/design_guidelines.pdf

- To accommodate larger equipment, provide a minimum of 80ft² (7.43m²) for each patient bed, and for clearance of at least 5 ft (60" or 1520mm) between patient beds and 4ft (48" or 1220mm) at the foot of the bed.



Source: *The American Institute of Architects. (2004). Planning and Design Guidelines for Bariatric Healthcare Facilities.* http://ww2.worksafebc.com/PDFs/healthcare/Bariatric/design_guidelines.pdf



- Floor-mounted toilets with a drop weight rating of 700lbs (to accommodate an impact factor of 1.4 for a 500lb patient) and a clearance of 5ft (60" or 1520mm). Allow for staff assistance on two sides of the toilet or shower.
- Wall-mounted sinks with a rating of 300lbs (floor mounted sinks interfere with wheelchairs).
- Open showers with a floor drain to allow for easier staff assistance and provide wall-mounted grab bars. Ensure any wall with a wall-mounted

Difficulties with self-care encountered by patients with obesity

- Reaching to manage bathing, toileting, footcare, dressing
- Mobility and transfers
- Meal Planning and Preparation
- Home and Public Accessibility
- Home management
- Leisure/Exercise

Factors impacting participation in self-care activities

- Low energy and fatigue
- Pain and mobility limitations
- Mental health
- Assistive devices
- Social supports
- Knowledge to access community resources
- Knowledge to manage and balance a healthy lifestyle

OT Interventions

Equipment	Environment	Education	Referrals
<ul style="list-style-type: none"> ■ Dressing aids ■ Bath equipment ■ Personal hygiene aids ■ Abdominal binders ■ Footwear and orthotics 	<ul style="list-style-type: none"> ■ Reorganizing home or work to: ■ Promote activity ■ Improve positioning ■ Make items more accessible ■ Schedule more effectively ■ Make it easier to food journal ■ Make it easier to fit in activity 	<ul style="list-style-type: none"> ■ Skin care ■ Positioning ■ Energy conservation ■ Time management ■ Stress management ■ Home management ■ Home safety ■ Community resources 	<ul style="list-style-type: none"> ■ Home Care ■ Equipment needs ■ Footwear/ Footcare ■ Abdominal supports

Bias from Health Professionals

- 1/3 of doctors listed obesity as a condition they respond to negatively
- Health professionals attribute obesity to laziness, non-compliance, unintelligent and less honest
- Psychologist attribute more psychopathology and poorer prognosis to patients with obesity compared to thinner patients.
- 69% of female patients report experiences of weight bias during encounters with health professionals

Consequences of Weight Bias

- Avoidance of medical care
- Delay preventative health measures
- Practitioners spend less time with patients
- Practitioners reluctant to perform preventative health screening (pelvic exams, cancer screenings, mammograms)
- Offer less interventions

Wheelchair and Seating Issues

- What are the issues that you have found that are challenging when dealing with bariatric clients?

Wheelchair and Seating Issues

Having a bariatric chair available
 – right size
 Mobility
 Transportation
 Weight
 Seating
 Measuring
 Doorways

Size options
 Availability for evaluation
 Weight capacity
 Back Supports

The Seating Assessment Process – Is it Different?



- Pre Mat Assessment/Interview
 - true weight
 - weight history
- The Mat Physical Assessment
- Set objectives/ goals
- Determine product parameters
- Possible product options
- Trial of equipment
- Prescription and letter of necessity
- Delivery and fitting
- Follow up

Wheelchair Prescription



- Shapes are difficult to measure ...
- Try to measure in sitting position
- Seat width ... overall width ... doorway widths

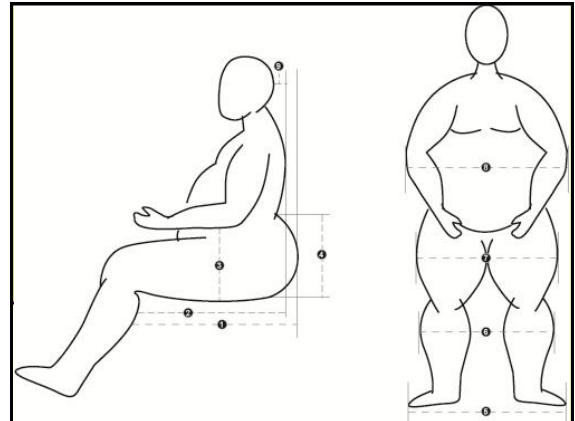
ADDITIONAL MEASUREMENTS FOR BARIATRIC CLIENTS

Current weight _____ Weight history _____

1. Back of knee/calf to back of buttocks (seat pan depth) _____
2. Back of knee/calf to thoracic/lumbar torso (for seat depth) _____
3. Seat pan to anterior femoral (inner) thigh _____
4. Seat pan to top of gluteal tissue (lower aspect of back support height) _____
5. Width of knee (lateral aspect) _____
6. Width from lateral calf to lateral calf (for widest aspect) _____
7. Overall hip width _____
8. Lateral elbow to lateral elbow _____
9. Back of head acroline _____



Created by:
Stephanie Tanguay
Jane Fontein



Measurement Considerations – Gluteal Shelf



Wide Hips, Narrow Shoulders – Which Do You Measure?



Measurement Considerations – Panus



Transfers



- Height of the chair is critical for transfers

Measurement Tools



www.wheelchairsquare.com

Callipers can make measurements easier and reduce errors. They need to be long enough to accommodate the client



Goals for Bariatric Mobility and Seating

- Chair that fits
- Easy mobility – by client or care giver
- Adjustable for change in weight
- Adjustable for fitting (difficult to measure and or change over time)
- Transportable
- Safe
- Accessibility
- Accept seating
- Provide seating

Adjustability Matters

- Original measurement was 38" wide
- Upon delivery ... Oops! She measured 26"
- "Width adjustable!"
- TGIF

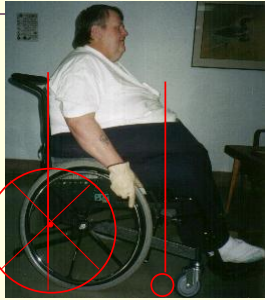


Durability - Rigid Frame

- High Strength
- Light weight
- Improved tracking
- Easy to push or self propel



Bariatric Centre of Gravity



- Rear wheels forward reduces load on casters and makes rear wheels easy to reach
- Casters forward reduces caster load and improves stability

Improved Mobility



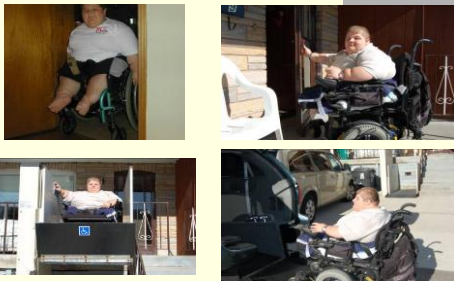
Paediatric Obesity

- Very little documentation related to mobility and assistive technology
- Actual weights not as high as adults but lead to numerous problems
- Vicious cycle – limited mobility ⇔ increasing weight
- Family “abuse”/guilt – overfeeding
- Psychosocial issues

Paediatric Bariatric - Issues

- Mobility, activity
- Continued Growth
- Transfers
- ADL equipment – size, space
- Accessibility
- Transportation
- Health issues
- Self esteem
- Care giving

Paediatric Bariatrics - Mobility and Access



Where to find more information

- www.caot.ca
 - Professional Issues Forum (PIF) on obesity
 - hOT Topics on obesity
 - Position statement on obesity (OT Now)
- www.obesitynetwork.ca
- www.cpa.ca
- The Rudd Centre for Food Policy and Obesity
<http://www.yaleruddcenter.org/>