

Falls Prevention Newsletter

Central and Northern Adelaide Health Service

A key aim of the Falls Network is to bring together health professionals with an interest in falls prevention.

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A Weighty Topic: Obesity and Falls

Emerging trends show an increase of obesity in the aging population⁽⁷⁾ Ongoing research explores the issue of weight and effects on the elderly in relation to body composition and physical frailty. Obesity causes serious medical conditions and impairs functional ability which in turn impacts quality of life. The aging process results in a progressive loss of muscle mass and strength which has a direct effect on balance and increases falls risk. It has been suggested that obesity can intensify age related decline leading to a decrease in function and an increase in frailty⁽¹⁰⁾.



Defining Obesity

Underweight	<18.5
Normal	18.5 - 24.9
Overweight	25.0 - 29.9
Obesity Class I	30.0 - 34.9
Obesity Class II	35.0 - 39.9
Obesity Class III	40+

Obesity is commonly assessed with the body mass index (BMI) and is defined as the weight in kilograms divided by the square of the height in metres (kg/m²). A BMI over 30 kg/m² is considered obese.

The general pattern of weight change in adults is:

- Weight gain 30 – 60 years of age
- plateau 60 – 90
- weight loss 90's

A decrease in muscle mass has been noted to start as early as adults in their 40's especially if they lead a sedentary lifestyle. (7)

Extra weight... extra positives?

The protective nature of excess weight can act as cushioning against fractures and can provide energy required to assist the healing process. Increased weight has also been shown to cause an increase in muscle mass.

Ironically weight loss has been shown to accelerate sarcopenia and decrease bone mineral density⁽⁹⁾ thus increasing the risk of falls and fracture. A study investigating bone loss and fracture after gastric bypass surgery in younger adults reported that 8% of participants were newly diagnosis with osteoporosis after the surgery, 6% had a decrease in height and 34% of reported falling post surgery. The authors suggest that early consideration of bone loss for this group needs to be considered to have timely intervention. (1)

So, what is the value of weight loss in falls and injury prevention?***It's a question of quality and balance...***

Villareal et al ⁽⁹⁾ evaluated the effects of muscle strength in 52 obese elderly adults, 52 non obese frail adults, and 52 non obese, non frail persons, who were similar in age and sex. They found that the obese elderly had a higher fat-free mass however the muscle quality was lower. The muscle quality was measured as the force per unit of cross-sectional muscle area. In addition to this, the group demonstrated reduced balance, strength, functional performance, aerobic capacity and walking speed, comparable in performance to frail non obese elders. The study concluded that obese elderly adults had low relative muscle mass and low muscle strength per muscle area even though they seemed to contrast the stereotypical frail elderly adult.



Obese individuals who carry excessive weight around the abdominal area are at higher risk of falling due to reduced stepping reactions when exposed to daily postural stressors and perturbations⁽²⁾ A study by Handrigan et al ⁽⁴⁾ concluded that overweight individuals sway more than those classified as 'normal weight'. This study suggested that weight loss had a greater effect on improving balance than increasing or maintaining muscle strength and hence exercise programs for the obese should focus on weight loss rather than improving muscle strength.

It is also important to consider the person holistically and regard the perceived constraints on physical exercise in older obese and non obese people. Sallinen et al ⁽⁸⁾ showed that physical inactivity was 2 times higher in the moderately obese group and 4 times higher in the severely obese group. Barriers included co-morbidities, pain, tiredness, fear, insecurity and discomfort. The study concluded that health promotion should take into account all factors when selecting activities to encourage participation in exercise.

In conclusion

Although excess weight can provide protective cushioning and increase muscle mass, reduced muscle strength and balance increase falls risk. Weight loss improves function, quality of life and reduces medical complications but in the process can lead to bone and muscle loss. Weight loss programs in the elderly should include both nutritional and exercise components that encourage minimal muscle and bone loss. ⁽⁹⁾

**Your role**

- ✓ Be aware of the effects that weight loss can have on your clients' bone mass and muscle strength
- ✓ Suggest your client has their vitamin D and calcium levels monitored closely especially when undergoing a weight loss program.
- ✓ Refer to dietician and physiotherapy for prescription of diet and exercise programs for obese clients.

Be sure to check out the upcoming education session "Bariatric and obesity workshop for aged care" on page 5 of this newsletter.

For a full list of references, please refer to page 7 of this newsletter.

Health Access Opening! Uniting Care Wesley Adelaide - Care Services For Older People



Uniting Care Wesley Adelaide's Day Therapy Centre; 'Health Access', moved to a new site at Prospect in July. After 20 years at the Clearview site, which could no longer accommodate the needs of the service, a long search of 2 years finally resulted in finding an empty warehouse with potential. Refurbishment created a large, light and fresh space for Health Access and other community services for older people that are offered on site.



In this new environment, Health Access has been able to expand the range of services available to clients, to include Occupational Therapy, Social Work and more groups alongside the existing Physiotherapy and Podiatry sessions. Feedback from clients has been very positive. The majority of existing clients from Clearview are able to continue their association with the service due to the proximity to their homes and provision of transport for those who would find it difficult to access.

The opening celebration of the new site was on 14th October, where clients were central to the celebration, providing demonstrations in line dancing, Tai Chi and even ad hoc harmonica playing. Client Gary Lockwood performed the official opening with a very engaging speech which included his experience of the service over the last 6 years.

For further information, please contact Val Freeman val.freeman@ucwesleyadelaide.org.au

Recent Education Sessions : Contenance and Falls

On August 31st, The Falls Prevention Team hosted the Contenance and Falls education session at the Hampstead Day Rehabilitation Centre. Four experts in the field provided us with in-depth information on falls and contenance including common contenance problems in the elderly, nocturia, management, product selection and contenance services. During the break, participants were able to expand their knowledge of contenance products by looking at a well set-up display by Rosalie Donhardt. Our guest speakers were:

- **Di Semmler**, Contenance and Women's Health Physiotherapist
- **Rosalie Donhardt**, Registered Nurse, Contenance Resource Centre
- **Leigh Pretty**, Clinical Practice Consultant, Urology & Contenance, R.G.H. President, Australian Nurses for Contenance
- **Nora Bostok**, Royal District Nursing Service Clinical Practice Consultant—Advanced Contenance Nurse Specialist

The session was attended by 45 health professionals and excellent feedback was received.



Burnside Seniors Expo and GP Practice Nurse Sessions



The Falls Team participated in the Burnside Seniors Expo which was an exposition for the general public to learn about services in their local community. Noeline Brown was the key speaker and in an entertaining speech encouraged all people to keep exercising and look after their health. Over 200 people attended the exposition during the day.

The team also promoted local falls services to the Northern and North Eastern Divisions GP practice nurses. These sessions have provided GP practice nurses with education around the cause of falls, the link between falls and osteoporosis and increased awareness in relation to current community services and resources available to clients. Referral processes and costs were also discussed. The sessions received great feedback and showed a marked increase in knowledge regarding existing community resources.

Further education sessions regarding community falls prevention services are being arranged with councils and those who have requested an in-service training session. If you wish to arrange a session for your organisation or team please contact marlena.esposito2@health.sa.gov.au



The Southern Regional Falls Prevention Network Update

de Morton Mobility Index (DEMMI)

	0	1	2																	
Bed																				
1. Bridge	<input type="checkbox"/> unable	<input type="checkbox"/> able																		
2. Roll onto side	<input type="checkbox"/> unable	<input type="checkbox"/> able																		
3. Lying to sitting	<input type="checkbox"/> unable	<input type="checkbox"/> min assist	<input type="checkbox"/> independent																	
Chair																				
4. Sit unsupported in chair	<input type="checkbox"/> unable	<input type="checkbox"/> 10 sec																		
5. Sit to stand from chair	<input type="checkbox"/> unable	<input type="checkbox"/> min assist	<input type="checkbox"/> independent																	
6. Sit to stand without using arms	<input type="checkbox"/> unable	<input type="checkbox"/> supervision	<input type="checkbox"/> able																	
Static balance (no gait aid)																				
7. Stand unsupported	<input type="checkbox"/> unable	<input type="checkbox"/> 10 sec																		
8. Stand feet together	<input type="checkbox"/> unable	<input type="checkbox"/> 10 sec																		
9. Stand on toes	<input type="checkbox"/> unable	<input type="checkbox"/> 10 sec																		
10. Tandem stand with eyes closed	<input type="checkbox"/> unable	<input type="checkbox"/> 10 sec																		
Walking																				
11. Walking distance +/- gait aid Gait aid (cane): rail/frame/stick/other	<input type="checkbox"/> unable	<input type="checkbox"/> 10m <input type="checkbox"/> 5m	<input type="checkbox"/> 50m <input type="checkbox"/> 20m																	
12. Walking independence	<input type="checkbox"/> unable	<input type="checkbox"/> min assist	<input type="checkbox"/> independent with gait aid <input type="checkbox"/> independent without gait aid																	
Dynamic balance (no gait aid)																				
13. Pick up pen from floor	<input type="checkbox"/> unable	<input type="checkbox"/> able																		
14. Walks 4 steps backwards	<input type="checkbox"/> unable	<input type="checkbox"/> able																		
15. Jump	<input type="checkbox"/> unable	<input type="checkbox"/> able																		
COLUMN TOTAL SCORE: _____																				
RAW SCORE TOTAL (sum of column total scores)		/19																		
DEMMI SCORE (MDC ₉₅ = 9 points; MCID = 10 points)		/100																		
Raw-DEMMI Score Conversion Table																				
Raw Score	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
DEMMI score	0	8	15	20	24	27	30	33	36	39	41	44	48	53	57	62	67	74	85	100
Comments: _____																				
Signature: _____		Date: _____																		

The Southern Regional Falls Prevention Network met on 19th October 2010 at Resthaven, Marion. 25 participants attended from across the region to hear Susie Thomas, Karen Sherwell and Jo Nolan present sessions on two mobility scales and the impact of exercise on hospital length of stay.

Susie discussed a research project that looked at the effect of implementing a 'Fit to Go' exercise program on hospital length of stay. Due to encouraging outcomes, Flinders Medical Centre has funding to continue the program.

Jo and Karen then discussed a research project which compared the Elderly Mobility Scale (EMS) with the De Morton Mobility Index (DEMMI). It was concluded that both are accurate measures of mobility, however the DEMMI had no flooring or ceiling effect, was better at demonstrating change in mobility and was a better predictor of discharge destination.

For further details on this session contact Felicity Findlay (08) 82017857 or email felicity.findlay@health.sa.gov.au

Safety and Quality Update



The final 3 of the 9 new SA Falls Fact Sheets are currently in print. These include:

- Strong and Steady – keep active... stay strong
- Standing up to Falls – planning ahead is a good idea
- Making your Home your Haven – practical tips to stay independent

All fact sheets can be accessed through the Safety and Quality website and we anticipate the final 3 will be ready in print form early November.

Upcoming Education Sessions 2010

November

4th Australian & New Zealand Falls Prevention Society Conference

Contact: <http://www.otago.ac.nz/fallsconference/index.html>
 Date: 21 - 23 November
 Time: 9-17:30 both days
 Venue: Dunedin, New Zealand

Gait and Falls - the challenge of maintaining balance during locomotion

Date: Tuesday, 30 November 2010
 Time: 2pm – 4:30pm
 Speaker: Gill Bartley - Physiotherapist
 Program Manager Falls Prevention (Northern and Central Adelaide)
 Venue: Tea Room, Day Rehabilitation Centre, Hampstead Rehabilitation Centre
 Cost: Free
 Contact: Gill Bartley gillian.bartley@health.sa.gov.au



December

Bariatric and obesity workshop for aged care

Contact: Helen.robertson2@health.sa.gov.au
 Date: 1 December 2010
 Time: 9:30 – 4:00pm
 Venue: Hindmarsh Education Centre
 Cost: Free

This session is aimed at community and care facilities.

Feature Service : RDNS Continence Service



RDNS is committed to providing a continence service that aims to improve quality of life and health outcomes. This is achieved through the provision of a continence assessment and management program that is individually tailored to the client. RDNS has a dedicated team of continence nurse advisors who are experienced in dealing with both bladder and bowel problems. Management is based on research and evidence so clients can be assured of receiving a world class service with RDNS.

Services Include:

- Bladder and/or bowel assessment
- Management including review of lifestyle issues and equipment
- Stoma education and management
- Catheter management
- Referral to funding schemes where appropriate
- Advice on products where applicable
- Bladder and Bowel rehabilitative programs

Locations:

- In-home service for those clients unable to get out and access centre based care conducted by the RN's in the field
- Centre based care at our regular clinics based at Payneham, Arndale, Salisbury, Munno Para, St Agnes

Eligibility

- HACC – Frail Aged
- HACC – Young Disabled
- DoH – Acute Care 28 days
- Self-funding

Referral

- Complete the secure online RDNS referral form or;
- Print and fax the RDNS referral form to (08) **8378 5383** or;
- Call RDNS on **1300 364 264**

Cost

- \$25 for a one month membership with services provided as required.
- A fee waiver system is available.

For more information

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References from “A weighty topic - Obesity and Falls”

1. Berarducci A, Haines K, Murr M (2009) Incidence of bone loss, falls and fractures after Roux-en-Y gastric bypass for morbid obesity. *Applied Nursing Res.* 22(1): 35-41.
2. Corbeil P, Simoneau M, Rancourt D, Tremblay A and Teasdale M (2001) Increased risk for falling associated with obesity: Mathematical Modelling of postural control. *Trans Neural Systems Rehabilitation Engineering* 9(2): 126-36.
3. Frimeli,T, Sinacore D and Villareal D(2008): Exercise Attenuates the Weight-Loss-Induced Reduction in Muscle Mass in Frail Obese Older Adults. *Medical Science and Sports Exercise.* 40(7): 1213–1219.
4. Handrigan G, Simoneau M, Corbeil P , Marceau P, Marceau S, Tremblay A and Teasdale N (2010) Weight loss and muscle strength affect static balance control. *International journal of obesity* 34(5): 936-42.
5. Jensen L, Quaade F, Sorensen O (1994): Bone Loss Accompanying Voluntary Weight Loss in Obese Humans. *Journal of Bone and Mineral Research* 9(4)
6. Miller G, Nicklas B, Davis C, Loeser R, Lenchik L and Messier S (2006) Intensive weight loss program improves physical function in older obese adults with knee osteoarthritis. *Obesity* 14(7): 1219-30.
7. Roubenoff R. (2004) Sarcopenic Obesity: The Confluence of Two Epidemics. *Obesity Research* 12(6) 887-888
8. Sallinen J, Leinonen R, Hivensalon M, Lyyra T, Heikkinen E, Rantanen T (2009) Perceived constraints on physical exercise among obese and non obese older people. *Prev. Med.* 49(6): 506-10.
9. Villareal D, Shah K, Banks M, Sinacore D and Klein S (2008): Effect of Weight Loss and Exercise Therapy on Bone Metabolism and Mass in Obese Older Adults: A One-Year Randomized Controlled Trial. *Journal of Clinical Endocrinology & Metabolism.* 93:2181-2187 .
10. Villareal D, Banks M, Siener C, Sinacore D and Klein S (2004): Physical Frailty and Body Composition in Obese Elderly Men and Women. *Obesity Research* vol.12. 6: 13- 920
11. Vivanti A,McDonald C, Palmer M and Sinnott M(2009): Malnutrition associated with increased risk of frail mechanical falls among older people presenting to an emergency department *Emergency Medicine Australasia* Volume 21, Issue 5, pages 386–394
12. Watson S, Zhang Z and Wilkinson T(2010): Nutrition risk screening in community-living older people attending medical or falls prevention services *Nutrition & Dietetics* 2010; 67: 84–89

