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**Measuring body fat in obese adolescents: a comparison of two methods**  
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**Background** – Measuring body composition in obese adolescents is fundamental for evaluating the success of various treatment strategies. To date, there are limited data available on the body composition of obese adolescents, and suitable methods for measuring change in percentage body fat are required.

**Objectives** – These data are derived from the baseline measurements of body composition of obese adolescents enrolled in the Eat Smart study which is testing the acceptability of three different dietary treatment strategies for weight loss and on outcomes of weight loss such as changes in body composition and percentage body fat.

**Design** – Subjects recruited via doctor referral. Inclusion criteria: aged 10-17 years, body mass index (BMI) >90th percentile, exclusion criteria: diabetes or those taking insulin sensitizers, or who have a metabolic/endocrine cause of their obesity. Measurement of body composition compared two methods: Bioelectrical Impedance Analysis (BIA, TANITA TBF - 305) and the BodPod for estimation of body fat. The two different methods used to measure % body fat were compared using Bland-Altman analysis, in order to evaluate the differential between the two measurement instruments.

**Outcomes** – Twenty subjects (7 male, 13 female), mean age 13.3 years and mean BMI of 33.6 (SD 7.2; range 24.8 – 48.7) have enrolled to date. Average % body fat measured by BIA was 45.1% (SD 12.2), and with the BodPod 47.5% (SD 6.1). There was reasonable agreement between the 2 methods with the Bland-Altman bias of 3.23. However, the 95% CI limits were considerable (-3.28 to 9.74 95% CI). There was a significant correlation (r=0.61, p<0.001) between the two measurements of body fat and their difference indicating that the bias was not consistent across the measured % body fat in this study to date.

**Conclusions** – Precise methods to accurately assess and track body composition in obese adolescents need to be validated if small weight changes are to be apportioned accurately to different body compartments in clinical studies. Although there was reasonable agreement between the measures at a population level, the usefulness of using both the BodPod and BIA as a measurement for determining alteration in body fat in individual obese adolescents needs to be determined.

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**Evaluation of web based delivery of a weight loss programme based around low glycaemic load food concepts**  
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**Background** – As a Food + Information objective, the “Lifestyle Foods” programme run by Crop & Food Research, aims to identify optimal ways of communicating information relating the control of food energy to the consumer. Previous studies have demonstrated the efficacy of a low glycaemic load diet in promoting weight loss when delivered with intensive dietary counselling. No studies have investigated the efficacy of a low glycaemic load diet when delivered via a web-based program.

**Objective** – This study aimed to evaluate whether an on-line weight management approach, with low glycaemic load principles, could be successfully used to promote weight loss in a free living population.

**Design** – In March 2007, 103 volunteers with a BMI >28 were enrolled into a six month trial. A dietitian counseled participants over the web via weekly interactive chat rooms and monthly personalised e-mails. Lifestyle advice, motivational tips and low glycaemic load recipes were delivered through the online program, and participants recorded body weight and food intake directly onto the web site. Weight, BMI and waist circumference were measured, and a 3DDR collected, at baseline and six months. Questionnaires assessing various aspects of the website and usability of information were administered at three months and six months.

**Outcomes** – Seventy participants (68%) completed the trial. Weight, BMI and waist circumference significantly decreased by 3.5 (95% CI 2.3, 4.7) kg, 1.2 (95%CI 0.8, 1.7) kg/m² and 4.8 (95%CI 2.8, 6.8) cm, of baseline values respectively (P <0.001). Twenty five people (36%) lost a clinically significant amount of weight (>5% of initial body weight).

**Conclusions** – This study has been demonstrated the web to be a cost effective media for delivering weight loss information for some people. Further research is necessary into who may be best served by online diets.