

# ESPEN 2011 - Abstract Submission

**Topic:** Nutritional assessment

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## **Abs Title: BODY COMPOSITION AND ENERGY BALANCE IN PATIENTS ON NUTRITIONAL THERAPY DURING THE FIRST YEAR AFTER MAJOR UPPER GASTROINTESTINAL SURGERY**

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**Rationale:** Major upper gastrointestinal (MUGI) surgery for cancer is associated with postoperative weight loss. The aim of this study was to study changes in body weight, body composition and body energy content in patients on nutritional therapy during the first postoperative year after MUGI surgery.

**Methods:** Body composition was assessed with dual-energy x-ray absorptiometry (DXA) preoperatively, 6 and 12 months postoperatively in 41 patients (men/women 27/14, age (mean (SD)) 60 (13)). Differences in body energy stores were calculated from changes in fat and fat free mass. Comparisons were done by analysis of variance for repeated measures with Bonferroni correction.

**Results:** The greatest weight loss (mean (SD)) (3.9 (0.7) kg or 5.6%,  $p < 0.001$ ) occurred during the first postoperative month and persisted during the first postoperative year. Twelve months postoperatively, 26% of the preoperative body fat stores were lost with no significant change in fat free mass. However, 29% of the patients remained weight stable with a small gain in fat free mass at 12 months compared to preoperative ( $p < 0.05$ ). Mean energy deficit during the first 6 months corresponded to 210 (260) kcal/day. Duplicate DXA measurements in 30 subjects showed 1% total imprecision in body energy content, which in our study gave an error of the estimate of energy balance of 16 kcal/day between preoperative and 6 months measurements.

**Conclusion:** Body weight loss after MUGI surgery occurred mainly within the first postoperative month and persisted over 12 months. The major constituent of the weight loss was body fat. However, weight loss was variable and one patient in three remained weight stable. Repeated measures of body composition by DXA over an extended period of time can quantify energy balance with high precision, and is suggested for use as a precise tool to evaluate nutritional interventions.

**Disclosure of Interest:** None Declared

**Keywords:** body composition, energy balance