

Summary of Studies Showing Key Benefits of Oral Nutritional Supplements (ONS)

| Citation | Study Overview | Conclusion | Improved Nutritional Status ¹ | Cost Savings ² | Decreased LOS ³ | Improved QOL ⁴ | Decreased Readmissions ⁵ |
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| Beattie AH, et al. A randomized controlled trial evaluating the use of enteral nutritional supplements postoperatively in malnourished surgical patients. <i>Gut</i> 2000;46:813-818. | Randomized controlled trial (RCT) of 101 malnourished surgical patients. 52 patients randomized to receive 1.5 kcal/mL ONS plus standard oral diet; 49 patients randomized to standard diet alone. Nutritional status was assessed at every 2 weeks for 10 weeks post op. | Patients in control group lost a maximum mean of 5.96 kg over 8 weeks vs. 3.4 kg in ONS group. Anthropometry, grip strength and QOL were significantly different between the groups. Fewer patients in ONS group (7/52) required antibiotic treatment vs. control group (15/49). The ONS group showed statistically significant improvement in QOL measurements. | ✓ | | | ✓ | |
| Cawood AL, et al. Systematic review and meta-analysis of the effects of high protein oral nutritional supplements. <i>Ageing Res Revs</i> 2012;11:278-296. | Systematic review of 36 RCT, n = 3790, mean age = 74 years, series of meta-analysis of those who received high protein ONS (>20% of kcal from protein). | High protein ONS is associated with significant reduction in complications, fewer readmissions to hospital, improvement in handgrip strength, increased total dietary intake and improved body weight. | ✓ | | ✓ | | ✓ |
| Gariballa S, et al. A randomized, double-blind, placebo-controlled trial of nutritional supplementation during acute illness. <i>Am J Med</i> 2006;119:693-699. | 445 patients aged 65 to 92 years were randomized to receive a normal hospital diet plus 400 mL ONS providing 995 kcal (223 patients) or a normal hospital diet plus a placebo (222 patients) for 6 weeks. | Over 6 months, 29% (65 patients) of the ONS group were readmitted to the hospital vs. 40% (89 patients) in the placebo group. This represents a 28% reduction in hospital readmissions. | ✓ | | | | ✓ |
| Lawson RM, et al. The effect of unselected post-operative nutritional supplements on nutritional status and clinical outcomes of orthopedic patients. <i>Clin Nutr</i> 2003;22:39-46. | Prospective controlled study with 181 adult patients in two orthopedic wards. The study group received two ONS/day post op in addition to regular meals. | 14 patients in ONS group developed major complications vs. 34 in the control group (p=0.005). Occurrences of major complications was 22 in ONS group and 55 in control group (p = 0.0002). No statistical difference in nutritional parameters, albumin, or CRP between groups. Median cost of hospital stay and cost of additional treatments was less in ONS group vs. control (£2068 vs. £2199). | | ✓ | | | |
| Norman K, et al. Three month intervention with protein and energy rich supplements improves muscle function and quality of life in malnourished patients with non-neoplastic gastrointestinal disease-A randomized controlled trial. <i>Clin Nutr</i> 2008;27:48-56. | 80 malnourished patients with benign digestive disease were randomly assigned to receive either ONS and dietary counseling for 3 months (n = 38) or only dietary counseling (n = 42). Nutritional status and malnutrition were determined utilizing Subjective Global Assessment (SGS), bioelectrical impedance, anthropometry, and hand grip strength. | Patients in the ONS group had a statistically significant greater calorie and protein intake. Body weight and BMI increased in both groups. Body cell mass (fat free mass) increased in both groups and, while not statistically significant, to a larger extent in the ONS group. Hand grip strength improved significantly in ONS group and remained unchanged in control group. ONS patients had improvements in more QOL scales (8 vs. 3 scales). ONS patients had significantly fewer readmissions (n = 10) vs. control group (n = 20). | ✓ | | | ✓ | ✓ |
| Philipson TJ, et al. Impact of oral nutritional supplements on hospital outcomes. <i>Am J Manag Care</i> 2013;19:121-128. | Eleven year retrospective study (2000-2010) utilizing information on 44 million adult inpatient episodes. Analysis was conducted using a matched sample of ONS and non-ONS episodes for any inpatient diagnosis. | Based on a matched sample for 1.2 million episodes, ONS patients had a shorter LOS by 2.3 days (10.9 vs. 8.6 days), decreased episode cost of \$4734 (\$21,950 vs. \$17,216). ONS patients had a reduced probability of early readmission within 30 days from 34.3% vs. 32% (6.7% decline). | | ✓ | ✓ | | ✓ |
| Stratton RJ, et al. A review of reviews: A new look at the evidence for oral nutritional supplements in clinical practice. <i>Clin Nutr Suppl</i> 2007;2:5-23. | A review of 13 systematic reviews and meta-analysis in which ONS were compared with routine care to assess clinical outcomes. | The review of reviews found consistent benefits of ONS across most patient groups including significant reductions in mortality, infections, pressure ulcers, and surgical complications. Patients receiving ONS demonstrated more weight gain and less weight loss as compared to dietary advice alone. | ✓ | | | | |

1. Improved nutritional status may be defined as: increased weight, less weight loss, improved anthropometric data, improved hematological and biochemical values.

2. Cost savings may be defined as the cost of hospitalization from admission to discharge.

3. Decreased length of stay (LOS) may be defined as shorter hospitalization period.

4. Improved quality of life (QOL) may be defined as increased ability to do activities of daily living and/or administration of the validated Medical Outcomes Survey (MOS).

5. Decreased readmissions may be defined as less readmissions to the hospital within a specific time period.