

*Restoration of physical function must be considered crucial since it is likely to shorten convalescent time, reduce morbidity, and improve survival; as well as facilitate earlier return to everyday activities or productive work.*



*Malnutrition is frequently present on admission.*

Up to 50% of hospitalized patients with digestive disease are malnourished, and their nutritional status may deteriorate further during their hospitalization. Malnutrition is frequently present on admission and nutrition status deteriorates further during hospitalization due to lack of awareness of attending staff or disease progression. Compared to well-nourished patients, malnourished patients experience more negative outcomes, including:

- Increased in-hospital complications
- Increased non-elective readmissions
- Significantly increased in-hospital and post-hospital mortality

A portion of the significant research findings at 3 months are shown in the table below:

Significant Changes in Muscle Function and QOL During Study Period: Oral Nutrition Supplementation vs Dietary Counseling Patients			
	Oral Nutritional Supplementation Dietary Counseling	Dietary Counseling Alone	P
<b>Muscle Function Parameters</b>			
Hand grip strength (kg)	5.4 ± 6.9 increase	1.0 ± 4.5 increase	0.002
<b>Subjective QOL Scales</b>			
Physical functioning	24.3 ± 26.0 increase	8.6 +/- 22.6 increase	0.007
General health	13.9 ± 16.6 increase	2.0 ± 19.1 increase	0.006
Vitality	22.8 ± 23.4 increase	11.7 ± 25.9 increase	0.05
<b>Readmissions</b>	10	20	0.041



Norman et al investigated the effect of 3 months of post-hospitalization nutrition intervention with oral nutritional supplementation (ONS) on body composition, muscle function, and quality of life in 80 malnourished gastrointestinal patients. The researchers compared ONS plus dietary counseling (DC) to dietary counseling alone. The ONS plus dietary counseling group consumed an average of 2 1/2, 200 ml servings of a high calorie, high protein supplement each day in addition to regular food intake. The dietary counseling (DC) consisted of a session with a dietitian prior to hospital discharge on how to improve calorie and protein intake.

The study results showed that the ONS improved outcomes in terms of functional status, quality of life, and readmissions. Hand grip strength and peak flow significantly improved, only in the ONS group, showing an improvement in functional status and muscle function. "Several factors distinguish supplements from ordinary food, such as liquid consistency, higher energy and protein content as well as micro-nutrient composition. Naturally, ONS also represent convenience products which are easily consumed." All 8 scales of the quality of life measurement improved in the ONS group compared to only 3 measures in the DC group. Additionally, the DC group experienced significantly more readmissions than the ONS group.

*Oral Nutrition Supplementation with dietary counseling improved both muscle function and QOL, while dietary counseling alone improved 3 of 8 QOL measures and did not improve muscle function.*

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## Conclusion

Inclusion of ONS in an intervention and discharge program for malnourished patients can help to reduce readmission rates, improving muscle function and quality of life.

Reference: Norman K et al. *Clin Nutr* 2008; 27: 48-56.

