

# Effect of Early Postoperative Enteral Immunonutrition on Wound Healing in Patients Undergoing Surgery for Gastric Cancer

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**Objective** To assess the effect of early postoperative enteral immunonutrition (IMPACT® *Immunonutrition for Surgical and Trauma Patients*) on the wound healing process in patients undergoing surgery for gastric cancer.

## Methods

This was a prospective, randomized, double-blind trial comparing early postoperative enteral immunonutrition and standard formula. Sixty-six (66) patients with gastric cancer were randomly assigned to receive early postoperative enteral immunonutrition in one of two treatment groups: (A) formula supplemented with arginine, omega-3 fatty acids and ribonucleic acid (IMPACT® Formula) or (B) isocaloric-isonitrogenous control formula. The length of enteral treatment was 7 days. Assessment of the wound healing process included quantification of hydroxyproline deposition in a subcutaneously placed catheter, and the occurrence of surgical wound healing complications. Additional outcome endpoints were overall morbidity and hospital length of stay.

## Results

### Significantly fewer episodes of surgical wound healing complications were found in patients fed IMPACT® Formula

	IMPACT® vs Control	P=
n = 66	0 vs 8 [26.7%]	0.005

### Significantly fewer episodes of infectious complications were found in patients fed IMPACT® Formula

	IMPACT® vs Control	P=
n = 66	2 [6.7%] vs 9 [30%]	0.01

The feeding type was found to be the only significant predictor of the presence of any postoperative complication (OR=2.49 P=0.001).

### Significantly higher hydroxyproline levels were found in patients fed IMPACT® Formula

	IMPACT® vs Control	P=
n = 66	59.7 nmol vs 28.0 nmol	0.0018

The authors stated these findings were concordant with available experimental evidence and provide a rational basis to suggest that dietary arginine supplementation contributes to wound healing by increasing collagen synthesis.

### Mean length of hospital stay was significantly shorter in the IMPACT® Formula group

	IMPACT® vs Control	P=
n = 66	13 days (11-22) vs 15 days (10-22)	0.02

## Conclusion

Early postoperative enteral nutrition with a formula supplemented with arginine, omega-3 fatty acids and ribonucleic acid (IMPACT® Formula) increased hydroxyproline synthesis and significantly decreased surgical wound healing complications in patients undergoing gastrectomy for gastric cancer.

**Summary prepared by Nestlé Healthcare Nutrition. The complete study can be accessed online at:**  
<http://www.ncbi.nlm.nih.gov/pubmed/15681102>