

## Economic outcomes of Enhanced Recovery After Surgery (ERAS)

**Author:** Jeffrey Huang, MD

**Introduction:** Enhanced recovery after surgery (ERAS) is standardized, coordinated, interdisciplinary perioperative care plans that incorporate evidence-based interventions to minimize surgical stress, improve physiologic and functional recovery, reduce complications, and thereby facilitate earlier discharge from the hospital. The benefits of ERAS have been also demonstrated in patients undergoing urological, gynecological, upper gastrointestinal, hepatobiliary, cardiac, and vascular surgery. ERAS programs can improve clinical outcomes, also are associated with a reduction in costs as a result of the reduction in LOS and morbidity. The cost effectiveness and economic benefits of implementation of ERAS program had been examined.

**Methods:** Literatures review was performed. The studies with cost saving data were included in the review. The results were shown in the table.

Type of surgery	Cost saving	References
Colorectal surgery	mean savings of 1651€ (\$2245 USD) per colorectal surgical patient	Lee L Ann Surg 2014; 259: 670-6
Bariatric surgery	The mean cost per patient was significantly lower in the ERAS group than in the historical group (14 836 NZ\$ vs 27 700 NZ\$).	Lemanu DP Br J Surg 2013; 100: 482-9.
Gastric surgery	The hospital costs were significantly less in the ERAS group than in the conventional group (WMD -505.87 dollars, 95 % CI, -649.91 to -361.84 dollars).	Yu Z Langenbecks Arch Surg 2014; 399: 85-92.
Gynecology	a 30-day cost savings of more than \$7,600 USD per patient (18.8% reduction).	Kalogera E Obstet Gynecol 2013; 122(2 Pt 1): 319-28

Esophageal surgery	The pathway-dependent cost saving per patient was €1055 and the overall cost saving per patient was €2013.	Lee L BJS 2013; 100(10):: 1326-34
Cardiac surgery	ERAS group was associated with a reduction in total hospital cost compared with those for the control group (€ 4,625 and € 5,441, respectively).	van Mastrigt GA Crit Care Med. 2006 ;34(1):65-75.

**Conclusion:** Economic data from multiple studies supported that ERAS can improve healthcare quality with lower cost.