



ESPEN FACT SHEETS

NUTRITION IN SURGERY

Perioperative nutrition: enhancing surgical outcomes



310 million major surgeries/year

Major surgery triggers a strong stress response that affects the immune, cardiovascular, and neurological systems, leading to **temporary and long-term complications** such as infection, organ dysfunction, pain, and extended recovery time.

Nutrition plays a key role in supporting recovery and reducing these risks.

about surgical patients:

1-4% post-operative mortality	≈15% post-operative morbidity	5-15% readmitted within 30 days
40-50% malnourished or at risk	nutritional therapy reduces complications (25-50%) and LOS (2-3d)	

ELECTIVE SURGERY: 4 PHASES ACCORDING TO ESPEN GUIDELINES

Nutrition plays a vital role throughout all four phases of surgery

Optimization of a patient's physical, nutritional, and psychological health before surgery, help improve strength and reduce surgical risks

1. PREHABILITATION

min 3-4 weeks before surgery



Exercise

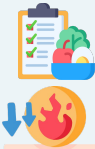


Nutrition counseling and therapy



Psychological support

aiming to



Improve nutritional status



Decrease inflammation



Increase functional capacity



2. PRE-OPERATIVE

High risk group

NRS≥5
WL>10%
BMI<18.5
Alb<30

Postpone surgery
at least 10-14 days

Prehabilitation
EN/sPN
Immunonutrition

No/low risk

NRS≤4

Start oral nutritional therapy

Energy needs met by nutritional therapy?



ONS in general population
Immune ONS in GI cancer
CHO drinks



in high-risk patients
Consider insertion of NCJ/NJ during surgery

Management according to ERAS®



SURGERY

3. INTRA-OPERATIVE



4. POST-OPERATIVE

Start early oral nutrition

Oral intake cannot be realized for 5d (or <50% for 7d)

Nutritional Therapy (EN)
If 7d <50%

sPN
Energy needs met at discharge?

Dietary counseling, ONS, EN via NJ, monitoring

Oral intake realized as recommended

Management according to ERAS®

DISCHARGE

and follow up

Abbreviations: LOS: length of Stay; NRS: Nutritional Risk Screening; WL: weight loss; BMI: Body Mass Index; Alb: albumin; ONS: Oral Nutritional Supplement; CHO: carbohydrate; NCJ/NJ: nasojejunal; EN - Enteral Nutrition; sPN - Supplemental Parenteral Nutrition; ERAS: Enhanced Recovery After Surgery



Weimann A, Bezmarevic M, Braga M, et al. ESPEN guideline on clinical nutrition in surgery - Update 2025. Clin Nutr. 2025;53:222-261.
Dobson GP. Trauma of major surgery: A global problem that is not going away. Int J Surg. 2020 Sep;81:47-54. doi: 10.1016/j.ijsu.2020.07.017.

ERAS® Society

