Assessing adherence to the enhanced recovery after surgery (ERAS) protocol for Pancreaticoduodenectomy surgery and impact on Nutritional Status.

Anisah Begum, Gifty Smith | Department of Nutrition & Dietetics , Manchester Royal Infirmary

NHS Manchester University NHS Foundation Trust

INTRODUCTION

Enhanced Recovery After Surgery (ERAS) is an evidence-based multidisciplinary care pathway designed to optimise preoperative, intraoperative and postoperative management, thereby improving recovery following surgery (1). ERAS programmes have been associated with reduced postoperative complications, shorter hospital length of stay, and improved clinical outcomes (2). Nutritional care is a key component of the ERAS pathway, as adequate nutrition may attenuate the surgical stress response, support recovery, and improve postoperative outcomes.

OBJECTIVES

1. Measure adherence to ERAS protocol
2. Explore the relationship between protocol adherence and nutritional outcomes.
3. To identify areas for improvement in the implementation of ERAS nutritional practices within the service.

METHOD

Retrospective service evaluation of patients undergoing pylorus-preserving pancreaticoduodenectomy (PPPD) or Whipple's procedure between January and December 2025 (n = 54), using Electronic Patient Record (EPR) data.

Data collection:

- **Pre-operative:** Percentage weight loss, nutritional interventions (ONS, dietary advice, enteral nutrition), and pancreatic enzyme replacement therapy (PERT) initiation. Fast-track cases were excluded from this analysis.
- **Post-operative:** Adherence to ERAS nutritional recommendations, including NG tube management, timing of free fluids, ONS prescription, soft diet initiation, and NG removal.
- **Post-discharge**: Percentage weight loss, PERT use, and ongoing nutritional interventions.

Analysis: Descriptive analysis performed using Microsoft Excel.

RESULTS

01

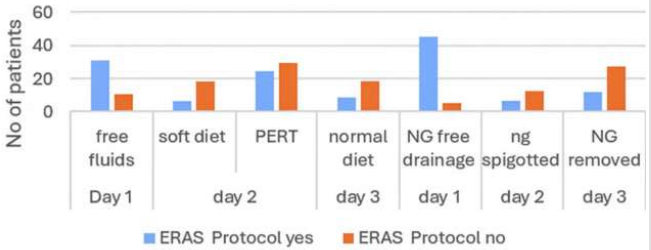
Route of nutrition pre and post pancreaticoduodunectomy



Pre-operatively, 68.5% (n=37) of patients met their nutritional requirements through diet alone, while 24.0% (n=13) required oral nutritional supplements (ONS). Post-operatively,this increased to 64.8% (n=35), demonstrating a substantial increase in nutritional support requirements following surgery.

02

Adherence to ERAS pathway Day 1 - 3



ERAS adherence was highest for NG free drainage (94%) and free fluids (68%), while adherence to PERT (46.2%), NG removal (48%), soft diet (35.1%), and normal diet progression (35.1%) was lower.

03

% weight loss pre and post pancreaticoduodunectomy



Pre-operatively, 48% (n=26) of patients experienced weight loss, with most losing 5-10% of body weight (n=15). Following surgery, weight loss was observed across the cohort, with 33.3% (n=18) losing 0-5%, 33.3% (n=18) losing 5-10%, 24.1% (n=13) losing 10-15%, and 9.3% (n=5) losing >15% of body weight

METHODOLOGY

Adherence to ERAS nutritional components varied across the post-operative pathway. Compliance was highest for NG free drainage (94%) and free fluid introduction (68%), but decreased for NG spigotting (50%), NG removal (48%), PERT initiation (46.2%), soft diet commencement (35.1%), and progression to a normal diet (35.1%). These findings suggest challenges in maintaining adherence to nutritional components as recovery progresses.

Nutritional risk was evident both pre- and post-operatively. Although no patients were classified as underweight by BMI, 48% (n=26) experienced pre-operative weight loss, most commonly 5-10% body weight loss. Pre-operatively, 68.5% (n=37) were managed with diet alone, while 24% (n=13) required ONS. Following surgery, ONS became the predominant nutritional intervention, increasing to 64.8% (n=35), indicating substantially greater nutritional support requirements.

Documented barriers to ERAS adherence included post-operative ileus, delayed gastric emptying, pancreaticojejunostomy leaks, and vomiting. Variation in practice between surgical teams was also identified, which may have contributed to differences in protocol implementation.

Limitations include the relatively small sample size (n=54), incomplete data for fast-track patients, and inconsistencies in EPR documentation. These factors limited accurate assessment of the timing of some interventions and outcomes.

CONCLUSION

- Variable adherence to ERAS nutritional components was observed, particularly for dietary progression and PERT initiation.
- Significant pre- and post-operative weight loss highlighted the nutritional vulnerability of this cohort.
- Post-operative ONS requirements increased following surgery.
- Improved adherence to ERAS recommendations and standardisation of practice are needed.
- Further evaluation of nutritional interventions and their impact on patient outcomes is warranted.

REFERENCES

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