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# IMPLEMENTATION OF ENHANCED RECOVERY AFTER SURGERY (ERAS) PROTOCOLS IN ELECTIVE GENERAL SURGERIES AT A PERIPHERAL SECONDARY CARE HOSPITAL IN PUNJAB: A PROSPECTIVE OBSERVATIONAL STUDY

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## ABSTRACT

Enhanced Recovery After Surgery (ERAS) is a multimodal perioperative care pathway aimed at reducing surgical stress and improving postoperative recovery. This prospective observational study evaluated the feasibility and outcomes of ERAS protocols implementation in elective general surgeries at a peripheral secondary care hospital in Punjab. One hundred adult patients undergoing elective general surgical procedures were enrolled over a period of 10 months. ERAS measures included reduced fasting duration, carbohydrate loading, multimodal analgesia, early oral feeding, and early mobilization. The mean age of patients was 42.6 ± 12.4 years. Open cholecystectomy constituted 69% of procedures, followed by hernia surgery and exploratory laparotomy. Early oral intake within 24 hours was achieved in 98% of patients, while mobilization within 24 hours was achieved in all patients. Mean hospital stay was 3.2 ± 1 days. No mortality or major complications occurred. ERAS implementation was found to be feasible, safe, and beneficial in a resource-limited peripheral hospital setting.

## KEYWORDS

ERAS; General Surgery; Peripheral Hospital; Enhanced Recovery

## INTRODUCTION

Enhanced Recovery After Surgery (ERAS) protocols are evidence-based perioperative pathways designed to reduce surgical stress and improve postoperative outcomes. ERAS pathways have shown benefits including reduced hospital stay, lower complication rates, and faster patient recovery in multiple surgical specialties [1-3]. Despite increasing adoption in tertiary healthcare institutions, implementation in peripheral secondary care hospitals remains limited due to infrastructural, financial, and manpower constraints. This study was conducted to evaluate the feasibility, safety, and outcomes associated with implementation of ERAS protocols in elective general surgeries at a peripheral secondary care hospital in Punjab.

## MATERIALS AND METHODS

This prospective observational cohort study was conducted in the Department of General Surgery at Sub Divisional Hospital Patti, Punjab, India, between June 2025 and March 2026 . Adult patients aged 18–70 years undergoing elective general surgical procedures were included after obtaining written informed consent. Patients undergoing emergency surgery and those with ASA grade IV or higher were excluded.

ERAS measures implemented included preoperative counseling, reduced fasting duration, carbohydrate loading, multimodal analgesia, early oral feeding, and early mobilization. Outcome measures included hospital stay duration, time to oral intake, mobilization time, and postoperative complications.

Data analysis was performed using Microsoft Excel 2021. Continuous variables were expressed as mean ± standard deviation, while categorical variables were presented as frequencies and percentages.

## ETHICAL CONSIDERATIONS

The study protocol was approved by the Institutional Ethics Committee of Sub Divisional Hospital Patti. Written informed consent was obtained from all participants. The study was conducted in accordance with the Declaration of Helsinki ethical principles.

## RESULTS

A total of 108 patients were screened for eligibility. Eight patients were excluded due to emergency surgery or ASA grade IV status. Finally, 100 patients were included in the analysis.

The mean age was 42.6 ± 12.4 years. Open cholecystectomy was performed in 69 patients (69%), hernia surgery in 21 patients (21%), and exploratory laparotomy in 10 patients (10%). Early oral intake within 24 hours was achieved in 98 patients (98%), while mobilization within 24 hours was achieved in all patients (100%). Mean hospital stay was 3.2 ± 1 days. Postoperative complications occurred in 2 patients (2%) and consisted only of postoperative nausea and vomiting. No mortality or major complications were observed.

## DISCUSSION

The present study demonstrates that ERAS prtocols implementation in a peripheral secondary care hospital is feasible and associated with favorable postoperative outcomes. Early oral intake and mobilization were successfully achieved in the majority of patients. The low postoperative complication rate further supports the safety of ERAS pathways in resource-limited settings.

This study contributes valuable evidence regarding ERAS protocols implementation in rural healthcare environments and highlights the practicality of simplified ERAS pathways in peripheral government hospitals.

Limitations of the study include the observational design, absence of a control group, relatively small sample size, and limited follow-up duration.

## CONCLUSION

Implementation of ERAS protocols in elective general surgeries at a peripheral secondary care hospital in Punjab is feasible, safe, and beneficial. Structured perioperative pathways and staff training may further improve postoperative outcomes in resource-limited healthcare settings.

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## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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**Table 1: Demographic Characteristics**

| Variable | Value |
|---|---|
| Mean Age | 42.6 ± 12.4 years |
| Male Patients | 58 |
| Female Patients | 42 |
| Sample Size | 100 |
| Study Duration | 10 Months |

**Table 2: Distribution of Surgical Procedures**

| Procedure | Frequency (%) |
|---|---|
| Open Cholecystectomy | 69 (69%) |
| Hernia Surgery | 21 (21%) |
| Exploratory Laparotomy | 10 (10%) |

**Table 3: ERAS Outcome Parameters**

| Outcome Parameter | Result | Percentage |
|---|---|---|
| Early Oral Intake (<24 h) | 98 Patients | 98% |
| Early Mobilization (<24 h) | 100 Patients | 100% |
| Postoperative Complications | 2 Patients | 2% |
| Mortality | 0 Patients | 0% |