



## Review Article

## Expanded nursing role in oral surgery in oncology based on ERAS model: A narrative review

Parveen<sup>1\*</sup>, Vijayshree Singh<sup>1</sup>, Deeksha Sharma<sup>1</sup>, Rakesh Sharma<sup>1</sup>

<sup>1</sup>College of Nursing, AIIMS, Rishikesh, Uttarakhand, India

### Abstract

The Enhanced Recovery after Surgery (ERAS) model is an interdisciplinary, multimodal evidence based perioperative care. It is a comprehensive, patient-centered approach, which deals all aspects of patient care. Though initially it was developed for patients with colorectal cancer, later it has been successfully adapted across different surgical specialties, including oncology. There are studies which have shown the substantial benefit of ERAS model in terms of reduced hospital stays, lower complication rates, and speed up recovery times.

This narrative review focuses on the essential role nurses play in ERAS, especially in oral and maxillofacial surgery, where post-operative care goes beyond healing. The Key components of ERAS model are preoperative counselling, optimizing nutrition, and encouraging early movement, managing pain through multiple methods, and reducing surgical stress. These interventions help in speedy recovery which boosts patient satisfaction and lower healthcare costs.

Nurses play an essential role in ERAS model by acting as educators, coordinators, and advocates by ensuring that patient receive the best possible care. This review is planned to examine the benefit of ERAS guidelines in early recovery of cancer patient undergoing oral surgeries.

**Keywords:** Enhanced recovery after surgery (ERAS), Oral oncology, Surgical oncology, Nursing role

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### 1. Introduction

ERAS guidelines are evidence-based and have the capability to transform surgical oncology. These guidelines help in optimizing patient recovery by lowering complications and shortening hospital stays. In 2001, a group of European surgeons collaborated to create multimodal, multidisciplinary, evidence-based ERAS protocols and recommendations for surgical patients.<sup>1</sup> By minimising the physiological and psychological effect of surgery, patient complication free early recovery can be ensured.<sup>1</sup> ERAS protocols help in maintaining homeostasis and in turn facilitate a quicker functional recovery of the patient.<sup>2</sup>

Though the ERAS guidelines were initially developed for patients with colorectal surgery,<sup>3</sup> but later on has been modified for other surgical procedures too. The primary aim of ERAS model is to target the particular difficulties of patients efficiently and effectively and making sure the early recovery of the patient from complex treatments, like tumor

resections and reconstructive surgeries.<sup>4</sup> In the field like oral and maxillofacial surgeries, orthopedics, obstetrics, heart surgery, and urology ERAS principles are incorporated successfully.<sup>5</sup>

Head and neck cancers require complex, time-consuming surgical procedures, especially when flap reconstruction is required.<sup>6</sup> The common surgeries in oral oncology are tumor removal, mandibulectomy, maxillectomy, neck dissection, reconstructive procedures, and operations of the salivary glands.<sup>7</sup> Some parameters like patient's age, stage of the disease, and the surgical method impact the surgical outcome.<sup>8</sup> Survival rates, functional rehabilitation (speech and chewing), aesthetic results, efficient pain control, and decreased complication rates are outcome-related indicators.<sup>9</sup>

Nurses play an important role in executing and maintaining the ERAS model in oral surgery. They have a role in supervising care, instructing patients, handle

\*Corresponding author: Parveen  
Email: [dhankaurnani2000@gmail.com](mailto:dhankaurnani2000@gmail.com)

symptoms, and ensure that evidence-based protocols are followed throughout the surgical process.<sup>10</sup> Since there is an emphasis on surgical outcomes in ERAS practices and the nurses play a significant role in the implementation of these protocols, this narrative review seeks to give a thorough overview of the ERAS model in oral oncology surgery. This review has a comprehensive and organized overview of ERAS in oral surgery.

On comparing ERAS model with traditional surgical treatment, later lowers healthcare costs significantly, improves patient outcomes, and increases satisfaction by incorporating evidence-based nursing practices. **Table 1**, depicts the side-by-side comparison of the two approaches and, highlights that ERAS protocols minimises hospital stays and complications which in turn enhances recovery in comparison to traditional care.

**Table 1:** Comparison of traditional surgical care and ERAS protocols (compiled on basis of NHS, ERAS protocols)

Aspect	Traditional Surgical Care	ERAS Protocol
<b>Surgical Approach</b>	Conventional methods of surgery, take time in recovery	Minimally invasive procedures, early recovery
<b>Postoperative Recovery</b>	Delayed nutrition, no focus on early mobility of patient, routine care	Introduction of oral intake/ nutrition at early, lesser hospital stays, early mobilisation of patient
<b>Pain Management</b>	Depend mainly on opioids for pain management	Multimodal pain relief therapies, fewer opioids
<b>Hospital Stay</b>	Longer	Shorter (1-2 days)
<b>Complication Rates</b>	Increased complications	Decreased complications
<b>Patient Satisfaction</b>	Decreased due to longer recovery	Better due to quicker recovery of the patient
<b>Costs</b>	Increased due to prolonged care	Lower due to shorter hospitalizations

**Table 2:** Review of literature

Study	Findings
<b>Wei et al.<sup>11</sup> (2024).</b>	In this experimental study 80 patients with chronic rhinosinusitis were enrolled for a period from January 2020 to December 2021. All these patients have undergone endoscopic sinus surgery. The experimental group received the ERAS-based nursing interventions and the control group received conventional treatment. The experimental group found to have a significantly reduced postoperative xerostomia, increased comfort and reduction in the negative emotions. Key outcomes: <ol style="list-style-type: none"> <li>1. Patients in the ERAS group showed higher xerostomia stage and comfort level at 6-, 24-, and 48-hours after surgery.</li> <li>2. Negative emotions were lesser in the ERAS group after nursing.</li> </ol>
<b>Li et al.<sup>12</sup> (2020)</b>	A nurse-led ERAS initiative for elderly patients who underwent lung surgery reported fewer complications and enhanced recovery after surgery. The initiative included imparting education to the patients and their families, encouraging their active involvement and compliance with treatment plans. The organized framework provides a replicable model for nursing-directed perioperative care in different surgical areas, especially for risk groups.
<b>Wenji et al.<sup>13</sup> (2022)</b>	In the mentioned model-based computational analysis which was carried out at the First Affiliated Hospital, Sun Yat-sen University during June 2020 - March 2021 involving 360 surgical patients. This analysis was conducted to assess the effectiveness of ERAS protocols in operating room nursing. Key out comes: <ol style="list-style-type: none"> <li>1. The rate of postoperative complications like skin injuries, shivering, and surgical site infections was markedly lower in the ERAS groups (7.22%) compared to control group (19.44%)</li> <li>2. The ERAS group have short average hospital stay time in comparison to the control group.</li> <li>3. The satisfaction level of patients about nursing care in ERAS group were significantly better than the control group.</li> <li>4. Patients within the ERAS group indicated a better postoperative quality of life with enhanced physiological, mental and social functioning.</li> </ol>
<b>Kiong et al.<sup>14</sup> (2021)</b>	A case-matched cohort study conducted during 2016–2019 for assessing ERAS pathways in patients with surgeries for head and neck cancer. The research contrasted 200 ERAS patients with corresponding matched controls (1:1) <b>Outcome:</b> The ERAS group had lesser planned intensive care unit admissions, shorter mean hospital stays and fewer overall complications. This study also reported significantly reduced opioid use in ERAS group.
<b>Coyle et al.<sup>5</sup> (2016)</b>	A six-month service improvement project for developing and implementing an ERAS protocol for head and neck cancer surgery in collaboration with multidisciplinary team. The multidisciplinary team

	<p>encompasses surgeons, otolaryngologists, anaesthetists, dietitians, physiotherapists, speech and language therapists, and nursing staff for designing the program. Once the program is developed, then it was implemented and 12-month long compliance with ERAS program was conducted during Feb 2014-Jan 2015.</p> <p><b>Outcome:</b></p> <ul style="list-style-type: none"> <li>The overall compliance was reported high, but a few areas to mention where low compliance reported are: explanation about ERAS program pre-operatively, introduction of carbohydrate drinks pre-operatively, individualised directed fluid therapy and, early mobilisation in the first 24hrs of surgery.</li> <li>The mean length of hospital stay has reduced.</li> </ul>
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### 1.1. Key principles of the ERAS model

1. **Patient-Centered Care and patient involvement:** every individual is unique with specialised needs. The personalized care ensures that treatment plans should be specifically designed to address each individual patient's unique needs, preferences, and circumstances. By prioritizing the patient's care and patient involvement, care providers aim to enhance patient satisfaction and improve overall health outcomes. By including the patient as a partner in his own care helps the patient recover successfully and gives him or her more confidence.
2. **Multidisciplinary Approach:** The ERAS model is based on a collaborative approach where various healthcare professionals like surgeons, anaesthesiologists, nurses, physiotherapists, and dietitians work together seamlessly. It provides more adaptability and efficiency through tailored care on communication with various specialities.
3. **Reduction of Surgical Stress:** physiological strain due to surgical stress is quite distressing for the patients. Recognizing this physiological strain of surgery, this principle focuses on implementing evidence-based strategies. Some of the techniques adopted to reduce physiological strain are assessing fitness for surgery at the time of pre-assessment, optimising the patient's health pre-operatively, reducing starvation by using carbohydrate load, minimizing surgical invasiveness, and optimizing pain management.
4. **Evidence-Based Practices:** The ERAS model relies on the latest research and clinical evidence to develop standardized protocols for perioperative care. By

keeping practices based on scientific findings, the model makes sure that interventions are effective, safe, and continually refined based on the best available data, which promotes higher quality care. E.g. reducing starvation with carbohydrate loading and making 2 hours of NPO prior to surgery is equally beneficial as the previous 6–8 hours of NPO.

5. **Early Recovery:** Early and swift recovery of the patient is key objective of the ERAS model. It ensures early return of the patients to normal activities and functions after surgery. By encouraging patients to engage in light physical activity as soon as possible and it provides resources that support recovery. The healthcare providers help in reducing complications and reinforce patients' resilience, which in turns foster a more seamless reintegration into their daily lives.
6. **Adaptability:** the flexibility and adaptability of the ERAS model make sure about multidisciplinary approach by including different specialities and patient population. These comes with higher flexibility and more adaptability.

### 1.2. Application of ERAS model

In the enhanced recovery after surgery (ERAS) model for oncological surgery, particularly for head and neck cancers, nurses play a critical and multifaceted role throughout the perioperative process. The ERAS model aims to improve patient outcomes by promoting faster recovery, reducing complications, and enhancing overall quality of care. The nurse's responsibilities can be categorized across several stages: (**Table 3**)

**Table 3:** Perioperative care practices (adaptation from AANA & ACOG guidelines)

Pre-operative care	
Components	Instructions
<b>Pre-Operative Counselling and Education</b>	<ul style="list-style-type: none"> <li>Provide a comprehensive introduction about the ERAS pathway to the patient and their family.</li> <li>Work to reduce patient worries, establish realistic expectations, and outline a clear perioperative care plan.</li> <li>Introduce resources such as patient diary for tracking progress.</li> </ul>
<b>Nutritional Optimization &amp; Avoidance of Fasting</b>	<ul style="list-style-type: none"> <li>Conduct a nutritional evaluation, preferably to be done by a dietician.</li> <li>High-protein diets and supplements to enhance nutritional reserves are recommended.</li> <li>Preoperative carbohydrate loading such as carbohydrate-rich beverages 2–3 hours before surgery (unless contraindicated) to lessen insulin resistance and surgical stress.</li> </ul>

	<ul style="list-style-type: none"> <li>• Clear fluids up to 2 hours and solids up to 6 hours before surgery (according to guidelines).</li> </ul>
<b>Lifestyle modification</b>	<ul style="list-style-type: none"> <li>• Discontinuation of smoking and alcohol consumption several weeks prior to surgery is strongly advisable to enhance wound healing and lessen complications. Smoking induces vasoconstriction that compromises oxygen and nutrient delivery. Alcohol causes impaired levels of certain immune system components.</li> <li>• Oral hygiene practices to keep the oral cavity healthy and quicker recovery</li> <li>• Appropriate baseline laboratory tests</li> </ul>
<b>Prehabilitation</b>	<ul style="list-style-type: none"> <li>• Personalised physical activities and breathing exercises to enhance baseline fitness.</li> <li>• Physiotherapy or speech therapy sessions can be considered, if relevant.</li> </ul>
<b>Pre-Operative Medications</b>	<ul style="list-style-type: none"> <li>• Optimise the comorbid conditions (e.g., diabetes, hypertension) under medical supervision.</li> <li>• Administer prophylactic antibiotics and other medications according to surgical team's advice.</li> <li>• Administration of preoperative sedatives and opioids is advised to have a limit.</li> </ul>
<b>Psychological Preparation</b>	<ul style="list-style-type: none"> <li>• Proper counselling or personalised education for alleviating anxiety of the patient.</li> <li>• Provide psychological assistance to lessen preoperative anxiety.</li> <li>• Review regarding pain management strategies and postoperative care is to be done beforehand.</li> </ul>
<b>Surgical and Anaesthetic Planning</b>	<ul style="list-style-type: none"> <li>• A comprehensive preoperative evaluation, including airway assessment for complex oral surgeries.</li> <li>• Prepare for the goal-directed fluid management during and after the surgery.</li> <li>• Prepare for multimodal analgesia to decrease opioid utilization after surgery.</li> </ul>
<b>Intra-operative Care</b>	
<b>Preoperative preparation in the operating room</b>	<ul style="list-style-type: none"> <li>• Normothermia is very important for a patient undergoing surgery so maintain that before induction of patient.</li> <li>• Keep a vigilance to have adherence with ERAS protocol components, like carbohydrate loading and nutritional optimization.</li> </ul>
<b>Anesthesia Management</b>	<p><b>Goal-Directed Fluid Therapy (GDFT):</b></p> <ul style="list-style-type: none"> <li>• Strict fluid monitoring to enhance tissue perfusion and maintain euvolemia.</li> <li>• Fluid overload to be prevented to reduce complications like edema and delayed healing.</li> </ul> <p><b>Multimodal Analgesia:</b></p> <ul style="list-style-type: none"> <li>• To limit the opioid usage, a mix of local anesthetics, non-opioid analgesics, and adjuncts (e.g., ketamine, dexmedetomidine) can be used.</li> <li>• Regional anaesthesia (nerve blocks) can be better option to alleviate postoperative pain.</li> </ul> <p><b>Preventing Nausea and Vomiting:</b></p> <ul style="list-style-type: none"> <li>• Be observant and timely administration of antiemetics, like dexamethasone and ondansetron, to reduce postoperative nausea and vomiting (PONV).</li> </ul>
<b>Surgical Techniques</b>	<p><b>Minimally Invasive Techniques:</b></p> <ul style="list-style-type: none"> <li>• Minimally invasive surgical methods are advocated whenever feasible to decrease the tissue trauma.</li> </ul> <p><b>Avoidance of Tracheostomy:</b></p> <ul style="list-style-type: none"> <li>• Alternative airway management strategies can be tried, it is advised according to ERAS protocols that tracheostomy it is to be used as a last resort.</li> </ul> <p><b>Meticulous Hemostasis:</b></p> <ul style="list-style-type: none"> <li>• Blood loss can be minimised by careful incision and meticulous use of advanced hemostatic methods.</li> </ul>
<b>Temperature Regulation</b>	<ul style="list-style-type: none"> <li>• To prevent hypothermia warming blankets, warmed IV fluids, and active warming devices can be used. For recovery it is important to maintain eutheria.</li> </ul>
<b>Blood Glucose Management</b>	<ul style="list-style-type: none"> <li>• Optimisation of sugar level and maintaining normal level of blood pressure is important to reduce the risk of infection and improve wound healing.</li> </ul>
<b>Minimizing Stress Response</b>	<ul style="list-style-type: none"> <li>• Short-acting anesthetic can be used to minimize postoperative sedation and promote recovery.</li> <li>• Muscle relaxants should be avoided for longer period. If it is necessary, then closely monitor for neuromuscular function.</li> </ul>

<b>Intraoperative Monitoring</b>	<ul style="list-style-type: none"> <li>Continuous meticulous monitoring of vital signs, blood gases, and oxygenation to early detection and manage complications promptly.</li> <li>Monitoring of electrolyte imbalances and required rectification at time to ensure stability during surgery is very important</li> </ul>
<b>Communication and Handover</b>	<ul style="list-style-type: none"> <li>There should be a clear communication between the surgical and anesthetic teams.</li> <li>A thorough handover to the postoperative care team is ensured which highlights ERAS objectives and any event that occurred during the operation.</li> </ul>
<b>Post-operative Care</b>	
<b>Pain Management</b>	<p><b>Multimodal Analgesia:</b></p> <ul style="list-style-type: none"> <li>A combination of non-opioid analgesics (e.g., acetaminophen, NSAIDs) along with adjuncts such as antidepressants can be used to reduce the need of opioid use as per ERAS protocols.</li> <li>Regional anesthesia or nerve blocks, short-acting local anaesthesia can be tried for effective pain management.</li> <li>Escalation of pain management treatment can be done according to WHO pain ladder.</li> </ul> <p><b>Opioid-Sparing Approach:</b></p> <ul style="list-style-type: none"> <li>Policy regarding opioids use can be made like it should be solely used for breakthrough pain or taper down as soon as possible if it is necessary to use. It will be helpful to prevent dependency.</li> </ul>
<b>Nutrition and Hydration</b>	<p><b>Early Oral Intake:</b></p> <ul style="list-style-type: none"> <li>Considering surgical complexity and swallowing ability of the patient, begin with clear liquids and advance to soft or regular diets according to the patient tolerance.</li> <li>High-protein, nutrient-rich supplements are important for wound healing.</li> </ul> <p><b>Nutritional Support:</b></p> <ul style="list-style-type: none"> <li>In collaboration with dietician caloric intake can be tracked, so that any nutritional deficiencies can be find out earlier. Enteral feeding can be commenced in case of insufficient oral intake.</li> </ul>
<b>Early Mobilization</b>	<ul style="list-style-type: none"> <li>The early mobilization techniques like sit up and turn over should be started within 24 hours of surgery, which later on can be escalated as per the patient capability.</li> <li>A customized rehabilitation plan in collaboration with physiotherapists should be devised to regain functional mobility and early recovery.</li> </ul>
<b>Airway and Respiratory Care</b>	<p><b>Tracheostomy Care</b> (if present):</p> <ul style="list-style-type: none"> <li>Ensure thorough cleaning and monitoring of the tracheostomy site to prevent infections and make a protocol for same.</li> </ul> <p><b>Breathing Exercises:</b></p> <ul style="list-style-type: none"> <li>Deep breathing exercises and incentive spirometry can be used to prevent atelectasis and support lung expansion.</li> </ul> <p><b>Speech Therapy:</b></p> <ul style="list-style-type: none"> <li>Involve the Speech and language therapists (SALT) for patients with speech or swallowing difficulties timely for rehabilitation.</li> </ul>
<b>Wound Care</b>	<ul style="list-style-type: none"> <li>Evaluate the surgical sites frequently for indications of infection, dehiscence, or other complications.</li> <li>Implementation of evidence-based dressing protocols to facilitate optimal wound healing.</li> </ul>
<b>Prevention of Post-Operative Complications</b>	<p><b>Infection Prevention:</b></p> <ul style="list-style-type: none"> <li>Continue administration of prophylactic antibiotics if necessary, and have a watch for symptoms like fever or localized infection.</li> <li>Remove urinary catheters, lines and drains as early as possible.</li> <li>Administration of standard laxative, if required</li> </ul> <p><b>Venous Thromboembolism (VTE) Prophylaxis:</b></p> <ul style="list-style-type: none"> <li>To promote early ambulation, provide low-molecular-weight heparin or another anticoagulant as prescribed.</li> </ul> <p><b>Oral Hygiene</b></p>

	<ul style="list-style-type: none"> <li>Oral hygiene is important component to minimise the risk of infection. Regular and meticulous oral care will help to minimize the risk of infection.</li> </ul>
<b>Psychological and Emotional Support</b>	<ul style="list-style-type: none"> <li>Psychological support is necessary to alleviate anxiety, depression, or body image issues.</li> <li>Counselling should be provided if required to those patients who have significant surgical resections or facial alterations.</li> </ul>
<b>Regular Monitoring and Follow-Up</b>	<ul style="list-style-type: none"> <li>To identify and manage complications early, monitor vital signs, fluid balance, and laboratory markers.</li> <li>To maintain the continuity of care, schedule regular follow-ups with the surgical and oncology teams.</li> </ul>
<b>Patient Education and Discharge Planning</b>	<ul style="list-style-type: none"> <li>Inform the patient and family members about postoperative care, pain management, and warning signs of complications.</li> <li>Patient should be well informed about their follow-up visits, wound care, and dietary needs.</li> <li>Make the transition smooth from inpatient to outpatient care or rehabilitation services.</li> </ul>
<b>Discharge and Follow-up</b>	
<b>Discharge criteria</b>	<ul style="list-style-type: none"> <li><b>Pain management:</b> sufficient pain control with oral medications.</li> <li><b>Dietary consumption:</b> as per the capability to tolerate oral or enteral nutrition.</li> <li><b>Mobility:</b> walks independently or minimal support required.</li> <li><b>Wound management:</b> Healing of surgical sites properly, without evidence of active infection.</li> <li><b>Airway Maintenance:</b> if tracheostomy is present, advise about its maintenance properly to the patient and their family members. Talk about the airway stabilization techniques also.</li> <li><b>Education:</b> educate and ensure that the patient and caregivers understand post-discharge care instructions.</li> </ul>
<b>Discharge Planning</b>	<p><b>Comprehensive Discharge Summary:</b></p> <ul style="list-style-type: none"> <li>Handover the summary of the surgery, postoperative development, and educate about the adherence to the ERAS protocols.</li> <li>Provide the list of medications, detail explanation about dietary needs, and wound care guidelines.</li> </ul> <p><b>Patient and Caregiver instruction:</b> Educate the patient and caregivers on:</p> <ul style="list-style-type: none"> <li>Management of surgical wounds and care of tracheostomy tube (if applicable).</li> <li>Early identification of infection, bleeding, or other complications.</li> <li>Following dietary and fluid recommendations.</li> <li>Provide contact details for urgent issues or complications. Explain in detail which could be urgent issues.</li> </ul> <p><b>Prescriptions and materials:</b></p> <ul style="list-style-type: none"> <li>Ensure that patient receive the necessary prescriptions for pain medications, antibiotics, nutritional supplements etc.</li> <li>Make arrangement for supplies for wound or tracheostomy care when needed.</li> </ul>
<b>Follow-Up Schedule</b>	<p><b>Short-Term Follow-Up (1–2 Weeks):</b></p> <ul style="list-style-type: none"> <li>Evaluation of surgical wounds, tracheostomy (if present), and overall healing.</li> <li>Assess for pain levels and adjustment of medications if required.</li> <li>Look for early complications like infections or inadequate wound healing.</li> </ul> <p><b>Speech and Swallowing Rehabilitation:</b></p> <ul style="list-style-type: none"> <li>Arrange regular follow-ups with a speech and language therapist (SALT) for swallowing and speech recovery, particularly in cases of reconstructive surgery.</li> </ul> <p><b>Nutritional evaluation:</b></p> <ul style="list-style-type: none"> <li>Monitor for nutritional intake and weight gain and arrange the follow-ups with dietician to ensure adequate recovery.</li> </ul> <p><b>Long-Term Follow-Up</b> <b>Oncologic monitoring:</b></p> <ul style="list-style-type: none"> <li>To detect cancer recurrence or progression in collaboration with the oncology team.</li> </ul>

	<ul style="list-style-type: none"> <li>Look for any need for adjuvant therapies like chemotherapy or radiotherapy and facilitate accordingly.</li> </ul> <p><b>Functional Rehabilitation:</b></p> <ul style="list-style-type: none"> <li>Continue physical therapy and strengthening exercises for better recovery.</li> <li>Concentrate on oral and facial rehabilitation, especially following extensive reconstructive surgery.</li> </ul> <p><b>Emotional Support:</b></p> <ul style="list-style-type: none"> <li>For emotional and psychological issues, provide access to counselling or support groups.</li> </ul>
<b>Monitoring and Managing Complications</b>	<p><b>Infection or Wound Issues:</b></p> <ul style="list-style-type: none"> <li>Observe for redness, swelling, discharge, or fever.</li> <li>Prepare for prompt assessment if complications develop.</li> </ul> <p><b>Nutritional Deficiencies:</b></p> <ul style="list-style-type: none"> <li>Conduct frequent blood tests to identify and tackle deficiencies, like iron or protein.</li> </ul> <p><b>Chronic Pain or Functional Impairment:</b></p> <ul style="list-style-type: none"> <li>If there are persistent issues, refer to a pain specialist or rehabilitation expert.</li> </ul>
<b>Reintegration and Quality of Life</b>	<ul style="list-style-type: none"> <li>Promote a gradual return to daily activities and social reintegration.</li> <li>Tackle any body image or functional issues that may emerge from surgery</li> </ul>

### 1.3. Fundamental competencies for ERAS model

Nurses should be competent enough for the proper implementation and adherence with the Enhanced Recovery After Surgery (ERAS) model. Following are the competencies required in nursing practice:

#### 1. Advocacy

- Role in ERAS: Nurses have to work as an advocate for the patient. In case of ERAS model implementation, they serve as the advocate for patient by ensuring that the patient's opinion is taken into account in decision making related to care and recovery. Giving heed to the patient choices regarding pain management, mobility, nutrition and other requirements throughout the perioperative process provide him/her a feeling that he is part of the process.
- Example in Practice: As a nurse one can ensure that proper redressal has to be done in case of any patient expresses any concerns about potential side effects of medications or discomfort related to post-operative care. They have to ensure that the patient's concerns are managed properly and their preferences are honoured within the framework of the ERAS protocol.

#### 2. Communication

- Role in ERAS: Effective communication is very important when multiple teams are included for the holistic care of the patient. This is essential for ensuring that the patients and their families are adequately informed about the ERAS protocols for their consistent adherence. Nurses facilitate communication among the healthcare team, patients, and their families to provide updates and clarify their doubts. This is helpful in lessening the

anxiety of patient and enhance satisfaction among them.

- Example in Practice: A nurse educates and provide guidance on the significance of early mobilization post-surgery, address questions from the patient or family. They make sure that the surgical team is well informed about the concerns or preferences shared by the patient.

#### 3. Education

- Role in ERAS: Nurses deliver personalised education according to the patient's needs, their literacy levels, and cultural context. This education helps them in comprehending the ERAS protocol and their involvement in recovery, which in turn improves the patient involvement in self-care and adherence with the program.
- Example in Practice: The nurse can plan and instruct the patient with head and neck cancer on how to carry out throat exercises after surgery or highlight the importance of a customized diet plan for recovery according to the patient level of grasp.

#### 4. Coordination

- Role in ERAS: Nurses play an important role in coordinating care across various disciplines for cohesive and proper implementation of the ERAS protocols. She facilitates collaboration with surgeons, anaesthesiologists, physiotherapists, dietitians, and other specialists to make sure that the care plan is well-organised and effectively executed.
- Example in Practice: The nurse is a key facilitator for early postoperative mobilization of patient in conjunction with physiotherapists, confirm that nutritional support is well placed in consultation with dietitians. She has proper communication with the surgical team regarding patient related

complications or their concerns during the recovery period.

## 5. Quality improvement

- a. Role in ERAS: Nurses have an active participation in enhancing the impact of ERAS program. She has an important and active role in audits, gathering data, taking part in research, and refining care processes based on feedback in collaboration with multidisciplinary team.
- b. Example in Practice: A nurse has an active role and responsibility in the evaluation of the patient related outcomes, identifying opportunities for improving protocol adherence, or attending educational workshops to remain updated about the latest ERAS practices. They also help in protocol improvements based on patient feedback or noted challenges in practice.

Nurses play a vital role in the success of ERAS in oncological surgery by integrating these mentioned fundamental competencies. They ensure that patients receive high-quality, compassionate, and coordinated care which promotes early recovery and reduces complications.

## 2. Discussion

There are several benefits of ERAS model in contrast to conventional perioperative care. The observed studies have adequate evidences to demonstrate that ERAS practices help to increase surgical results, lower complications and enhance recovery.

Repeatedly highlighted and reported facts of ERAS is its clustered and multimodal approach like opioid-sparing analgesia, targeted hydration therapy, early mobilisation, early introduction of nutrition post-operatively<sup>13,15</sup> to improve recovery. Wei et al. (2024),<sup>10</sup> has reported positive impact of ERAS-based nursing interventions in experimental group in terms of enhanced patient comfort and decreased postoperative xerostomia. Similarly, Li et al. (2020)<sup>11</sup> through the implementation of Nurse-driven ERAS found enhanced involvement of patient in their care and adherence with mentioned procedures. Wenji et al. (2022)<sup>12</sup> has also reaffirmed that there were fewer complication rates, fewer infections, shivering, and skin damage in ERAS group than those who received standard nursing care.

Kiong et al. (2021)<sup>13</sup> and Coyle et al. (2016)<sup>5</sup> has reported efficacy of ERAS model in terms of decreased hospital stay and improved recovery after head and neck surgery, but also found the difficulties in enforcing ERAS compliance. In spite of all the reported benefits; adherence with so much bulky and clustered protocols is difficult. For successful implementation and adherence, it is important to improve implementation techniques and implement educational programs for health professionals such as CNE, in-service education programs etc.

## 3. Conclusion

ERAS protocols being multimodal, multidisciplinary evidence-based approach which has revolutionised the field of surgical oncology. A few ERAS protocols like early mobilization, introduction of nutrition early, multimodal pain management, reduced opioid dependence, reduced complications which reduces hospital stay and ultimately enhance the patient satisfaction.

Nurses play a crucial role not only in successful implementation of the ERAS protocols but also to ensure the adherence through patient education and, timely symptom management. As indicated in some studies, there are certain difficulty in implementation of the ERAS protocols, which highlighted the need for more research and improvement in ERAS guidelines to increase the effectiveness of system in clinical area.

Further studies focusing on methods to increase adherence to ERAS protocols is required to be done. Patient outcomes could be further improved by designing and implementing nurse-led ERAS program, especially for high risk groups like cancer and elderly patients.

## 4. Source of Funding

None.

## 5. Conflict of Interest

None.

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