HEAD AND NECK SURGERY ERAS

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Optimal Perioperative Care in Major Head and Neck Cancer Surgery With Free Flap Reconstruction

A Consensus Review and Recommendations From the Enhanced Recovery After Surgery Society

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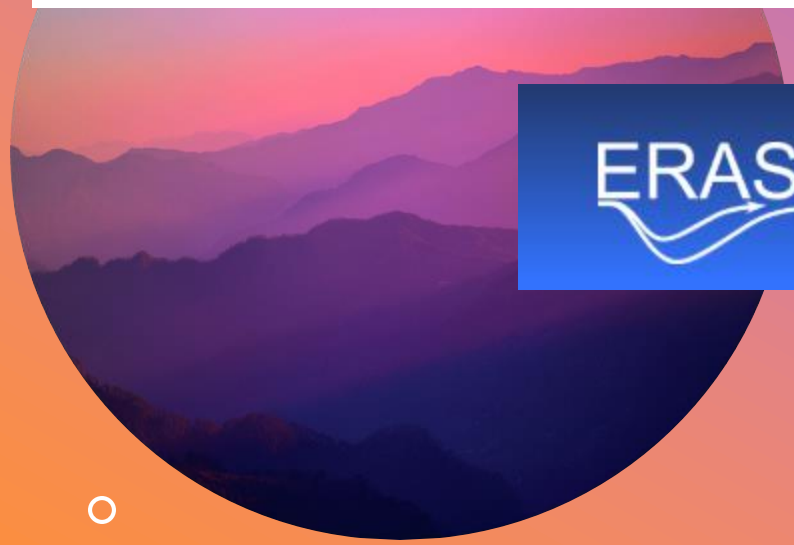

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IMPORTANCE Head and neck cancers often require complex, labor-intensive surgeries, especially when free flap reconstruction is required. Enhanced recovery is important in this patient population but evidence-based protocols on perioperative care for this population are lacking.

OBJECTIVE To provide a consensus-based protocol for optimal perioperative care of patients undergoing head and neck cancer surgery with free flap reconstruction.

EVIDENCE REVIEW Following endorsement by the Enhanced Recovery After Surgery (ERAS) Society to develop this protocol, a systematic review was conducted for each topic. The PubMed and Cochrane databases were initially searched to identify relevant publications on head and neck cancer surgery from 1965 through April 2015. Consistent key words for each topic included "head and neck surgery," "pharyngectomy," "laryngectomy," "laryngopharyngectomy," "neck dissection," "parotid lymphadenectomy," "thyroidectomy," "oral cavity resection," "glossectomy," and "head and neck." The final selection of literature included meta-analyses and systematic reviews as well as randomized controlled trials where available. In the absence of high-level data, case series and nonrandomized studies in head and neck cancer surgery patients or randomized controlled trials and systematic reviews in non–head and neck cancer surgery patients, were considered. An international panel of experts in major head and neck cancer surgery and enhanced recovery after surgery reviewed and assessed the literature for quality and developed recommendations for each topic based on the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) system. All recommendations were graded following a consensus discussion among the expert panel.

FINDINGS The literature search, including a hand search of reference lists, identified 215 relevant publications that were considered to be the best evidence for the topic areas. A total of 17 topic areas were identified for inclusion in the protocol for the perioperative care of patients undergoing major head and neck cancer surgery with free flap reconstruction. Best practice includes several elements of perioperative care. Among these elements are the provision of preoperative carbohydrate treatment, pharmacologic thromboprophylaxis, perioperative antibiotics in clean-contaminated procedures, corticosteroid and antiemetic medications, short acting anxiolytics, goal-directed fluid management, opioid-sparing multimodal analgesia, frequent flap monitoring, early mobilization, and the avoidance of preoperative fasting.

CONCLUSIONS AND RELEVANCE The evidence base for specific perioperative care elements in head and neck cancer surgery is variable and in many cases information from different surgerical procedures form the basis for these recommendations. Clinical evaluation of these recommendations is a logical next step and further research in this patient population is warranted.

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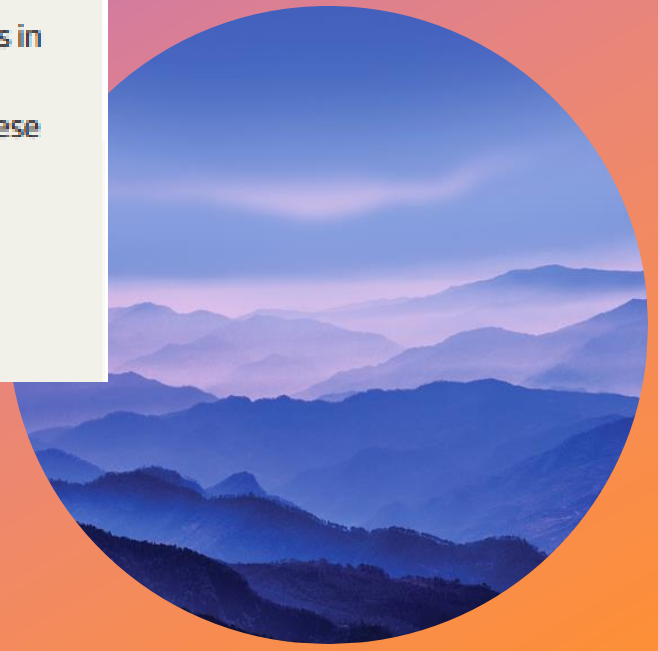

Table. Enhanced Recovery After Surgery Recommendations for Perioperative Care in Head and Neck Cancer Surgery With Free Flap Reconstruction

Item	Recommendation	Evidence	Recommendation
Preadmission education	All patients undergoing major head and neck cancer surgery with free flap reconstruction should receive structured teaching from a qualified health practitioner.	Low	Strong
Perioperative nutritional care	All patients undergoing major surgery for head and neck cancer should undergo preoperative comprehensive nutritional assessment, with a special focus on dysphagia and risk for refeeding syndrome. Preoperative nutrition intervention is recommended for those identified as malnourished.	High	Strong
	A standard polymeric enteral nutrition formula should be considered suitable for use in patients requiring preoperative nutrition support.	Low	Weak
	A standard polymeric enteral nutrition formula should be considered suitable for use in patients requiring postoperative nutrition support. There are insufficient data to provide a recommendation on the use of immunonutrition	Moderate	Conditional
	Preoperative fasting should be minimized. In patients suitable for oral intake and with appropriate screening and management for those presenting with dysphagia or risk of refeeding syndrome, clear fluids should be permitted for up to 2 hours and solids for up to 6 hours prior to anesthesia. Preoperative CHO treatment may be offered to head and neck cancer patients.	High (fluids), low (solids), low (CHO)	Strong (fluids), strong (solids), conditional (CHO)
	Oral diet is the first choice for all patients tolerating it. In patients for whom oral feeding cannot be established postoperative tube feeding should be initiated within 24 hours. Nutrition interventions should be developed in consultation with the multidisciplinary team and individualized according to nutritional status and surgical procedure.	Moderate	Strong
Prophylaxis against thromboembolism	Patients undergoing head and neck cancer surgery with free flap reconstruction are at increased risk of VTE and should undergo pharmacologic prophylaxis; however, the risk of bleeding must be weighed against the benefits on an individualized basis.	High	Strong
Antibiotic prophylaxis	Perioperative antibiotics are not indicated for short clean head and neck oncologic procedures. In clean-contaminated procedures, perioperative antibiotics should be given 1 hour prior to surgery and continued for 24 hours.	High	Strong
Postoperative nausea and/or vomiting prophylaxis	Patients undergoing head and neck cancer surgery should receive preoperative and intraoperative medications to mitigate Postoperative nausea and/or vomiting. A combination of corticosteroid and antiemetic should be considered.	High	Strong
Preanesthetic medications	Patients should receive short acting anxiolytics, given intravenously and titrated to required effect. Long acting anxiolytics and opioids should be avoided.	High	Strong
Standard anesthetic protocol	The anesthetic protocol should not only prevent awareness, but also minimize adverse effects and allow patients to awaken and recover rapidly; therefore, avoidance of too deep anesthesia, especially in elderly patients, is recommended.	Low	Strong
Preventing hypothermia	Normothermia should be maintained intraoperatively. Temperature monitoring is necessary to ensure normothermia is maintained.	High	Strong
Perioperative fluid management	Fluids should be managed in a goal-directed manner, avoiding over and under hydration.	Moderate	Strong

Routine postoperative intensive care admission	Routine intensive care unit admission to facilitate an immediate postoperative period of deep sedation and artificial respiration is not necessary. A subset of low-risk uncomplicated patients may be treated safely after recovery from anesthesia in a high dependency unit or specialist ward, provided adequate skilled nursing and medical coverage is provided.	Low	Weak
Pain management	Opioid-sparing, multimodal analgesia, utilizing NSAIDs, COX inhibitors, and paracetamol, are preferred for patients undergoing head and neck cancer surgery. Patient-controlled analgesia can be considered if multimodal analgesia approaches are insufficient. No recommendation can be made on the role of additional nerve blocks.	High	Strong
Postoperative flap monitoring	Free flap monitoring should be performed at least hourly for the first 24 hours postoperatively. Monitoring should be continued for the duration of the patient's stay with tapering of intensity after the first 24 hours. Method of monitoring should include, at a minimum, clinical examination by staff experienced with free flap monitoring. Adjunct monitoring techniques should be considered.	Moderate	Strong
Postoperative mobilization	Early mobilization, within the first 24 hours of surgery is recommended for patients undergoing major head and neck cancer surgery.	Moderate	Strong
Postoperative wound care	Vacuum assisted closure is recommended for complex cervical wounds.	High	Strong
	Vacuum assisted closure may be considered for free flap donor site.	Moderate	Strong
	Polyurethane film or hydrocolloid dressings should be used for skin graft donor site treatment.	High	Strong
Urinary catheterization	Urinary catheters should be removed as soon as the patient is able to void, ideally less than 24 hours after completion of surgery.	High	Strong
Tracheostomy care	Decannulation after tracheostomy and stoma closure is recommended.	High	Strong
	Surgical closure of the tracheostomy site is recommended.	Moderate	Strong
Postoperative pulmonary physical therapy	Pulmonary physical therapy should be initiated as early as possible after head and neck reconstructions to avoid pulmonary complications.	High	Strong

Abbreviations: CHO, carbohydrate; COX, cyclooxygenase; NSAID, nonsteroidal antiinflammatory drug; VTE, venous thromboembolism.

Milton J Dance Head and Neck center

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