



Oncology nurses' role in the enhanced recovery after surgery programme

Surgery is one of the cancer treatment modalities, apart from chemotherapy, radiation, and other therapies. To deliver patient-centred care, nurses play an essential role in every intervention in the cancer therapy, including surgery. Oncology nurses collaborate closely with the surgical team in the surgical journey of the patients with cancer.

Traditional surgical care is mostly based on the surgical myths or dogmas which have been practiced for a long time.¹ For instance, fasting from midnight the night before colorectal surgery is a common practice to minimise the risk of aspiration during the induction of anaesthesia. Whilst, the evidence showed the safety of shorter period of preoperative fasting, i.e. allowing intake of solid food up until 6 h and clear fluid until 2 h prior to surgery.^{2,3} Shifting the paradigm of traditional surgical care into the evidence-based practice is a major challenge for the surgical health care providers.

Another challenge is to have a coordinated care throughout the patients' pathway to optimise patient outcomes.⁴ The surgical patients typically go through different units of the hospital from preadmission to postoperative stage. Each unit has its own focus, treatment, and health care personnel.⁴ The entire journey of the surgical patients is hardly overseen by the health care providers.

To address these challenges, a group of European surgeons developed the enhanced recovery after surgery (ERAS) protocol in 2001.⁴ The ERAS is defined as a multimodal multidisciplinary evidence-based programme for surgery patients.⁵ It aims to lowering perioperative stress, maintaining physiological function and accelerating recovery after surgery.⁵ A growing number of studies have documented ERAS programme's benefits in reducing the morbidity rate and complication, improving recovery and shortening the length of stay, without increasing readmission after surgery.^{6,7} To recover effectively after surgery, the patients must be comfortable, able to eat and drink without nausea and vomiting, mobile, and be adequately independent to be discharged home.⁸ With the effective implementation of ERAS protocol by the multidisciplinary team as well as the patient, these outcomes can be achieved in one or two days, depending on the type of surgery.⁴ An example of ERAS protocol for colorectal surgery and its comparison with traditional care is presented in [Table 1](#).

ERAS programme involves various modalities carried out by many professionals including physicians, nurses, dieticians, and physiotherapists. The medical leadership is commonly a surgeon, whereas ERAS project manager who manages the resources is often a nurse. ERAS coordinator is also commonly a nurse. ERAS coordinator deals with practical matters including distributing memos and instructions, reporting and giving feedback to the involved units, and managing for training of new personnel, and carrying out audit process.⁴ Oncology nurses can also have the role in coordinating and managing the ERAS programme to run smoothly for patient with cancer.

In the preoperative phase, while it can be similar in many ways with the patients who will undergo surgery in general, the management of the patients with cancer can be complex.⁹ This is due to the direct and indirect effects if the cancer pathology as well as the effects of adjuvant cancer therapy.⁹

In the ERAS protocol which will be conducted for an individual with cancer, nurses carry out the preoperative optimisation, including the risk assessment, smoking cessation, and alcohol cessation. Nurses also conduct individual and site-specific assessment.⁹ The preoperative assessment of an individual with cancer include the assessment of smoking history, symptom control, nutritional status, performance status, cardiopulmonary status, general medical issues, and psychosocial, cognitive, and educational needs.⁹ In addition to the general preoperative evaluation, the site-specific assessment is also of high importance as the location of the cancer can bring certain effects and complication for the patients.⁹ For instance, surgery for colorectal cancer may require a stoma. The patient needs to get reassurance and sufficient information about the stoma/ostomy, how it functions and how to care for it.

Nurses also have an essential role to give patient information, education, and counselling.⁸ Patients need to have information about their preparation for the surgery, and their care after surgery, including pain management and mobilisation. A qualitative study of 80 patients undergoing colorectal surgery with the ERAS programme showed that those who perceived that they have received sufficient information can better plan their rehabilitation period.¹⁰ Patient will also have the sense of control, safety, and feeling prepared for what will happen before and after surgery.¹⁰

Furthermore, nurses can also play an active role in cancer prehabilitation. For the cancer patients who will undergo surgery, prehabilitation in the ERAS protocol is particularly important to address the modifiable risk factors, which cause poor preoperative physical status.⁵ Cancer prehabilitation is "a process in the continuum of care that occurs between the time of diagnosis and the beginning of acute treatment (surgery, chemotherapy, radiotherapy) and includes physical, nutritional, and psychological assessments that establish a baseline functional level, identify impairments, and provide interventions that promote physical and psychological health to reduce the incidence and/or severity of future impairments".¹¹ Multimodal prehabilitation that included aerobic and resistance exercises along with the relaxation strategies and protein supplementation has shown positive postoperative outcomes for cancer patients undergoing colonic resection.¹²

In the intraoperative phase, two key issues for patients with cancer include coagulopathies and cytotoxic precautions.⁹ Patients with cancer, in particular those with advanced cancer or primary brain tumours commonly have hypercoagulable state.⁹ It important to have the

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Table 1

The comparison between traditional surgical care and Enhanced Recovery After Surgery (ERAS) for colorectal surgery (ERAS Guidelines 2019).

	Traditional surgical care	Enhanced Recovery After Surgery
Preoperative	<ul style="list-style-type: none"> - Various preoperative optimisation - No primary care involvement 	<ul style="list-style-type: none"> - Preoperative optimisation: risk assessment, smoking cessation and avoiding alcohol - Preadmission patient information, education, and counselling - Prehabilitation - Preoperative nutritional care - Management of anaemia - Primary care involvement
Admission	<ul style="list-style-type: none"> - Patients admitted several days before the procedure - Fasting from midnight the night prior to surgery - Bowel preparation 	<ul style="list-style-type: none"> - Patients admitted on the day of the surgery or the day before surgery - Multimodal prophylaxis of nausea and vomiting (Postoperative nausea and vomiting/PONV) - Antimicrobial prophylaxis and skin preparation - No routine bowel preparation - Preoperative fluid and electrolyte therapy - Preoperative carbohydrate loading - Pre-anaesthetic medication
Intraoperative	<ul style="list-style-type: none"> - Variable anaesthetic and surgical approach - Fluid management before, during, and after surgery resulted in fluid overload and fluid and electrolyte imbalance - Use of drains and nasogastric tube 	<ul style="list-style-type: none"> - Standard anaesthetic protocol - Intraoperative goal-directed fluid therapy (GDFT) only for high-risk patients - Preventing intraoperative hypothermia - Minimally invasive surgical procedures - Avoidance of drains and nasogastric tube
Post-operative	<ul style="list-style-type: none"> - Opioid-based analgesia - Variable post-operative care - No predefined discharged criteria - Urinary drainage: patients expected to pass 30 ml of urine per hour 	<ul style="list-style-type: none"> - Multimodal analgesia - Mechanical thromboprophylaxis should no longer be used in 28 days - Personalised, goal-directed fluid management regimen - Urinary drainage: prevention of post-operative ileus: no evidence for using of chewing gum - postoperative glycaemic control: minimise hyperglycaemia - early mobilisation and feeding - predetermined discharged criteria

(Adapted from Rao and Haray, 2014; Balfour, 2019; Gustafsson et al., 2019).

prophylactic treatment including the use of low molecular weight heparin, graduated compression stockings, and sequential compression devices for the patients going through surgery for cancer.⁹

Whereas, in the postoperative phase, in the ERAS protocol, nurses have the roles for pain management, early mobilisation, early oral feeding, and management of postoperative nausea and vomiting.⁸ Targeted pain management which includes multimodal analgesia should be discussed with the doctors and delivered by the nurses. Anxiety is also common in patients after surgery. Therefore, support from the nurses is needed. Nurses can also involve the caregivers to give support, which may include psychological and spiritual support. On the other hand, to enhance recovery, patients should be supported to have early mobilisation. Patients can start with passive mobilisation, then active mobilisation, starting from sitting in the bed, and walking around the bed, with the consideration of the patient condition. Patients' early mobilisation should be in synergy with the pain management. For example, NSAIDs are given intravenously 30 min before the patients get out of the bed for the first time.¹³

In spite of the evidence of the ERAS' promising outcomes, many barriers exist in implementing the ERAS protocol, even in the developed countries, such as the UK and other countries worldwide.^{4,8} In the developing countries such as Indonesia, ERAS protocol implementation is hardly found. Interviews with the nurse directors in 13 major hospitals in Indonesia in early 2022 indicated that the ERAS protocol has not been implemented for cancer surgery. In Indonesia, limited implementation of ERAS has only been done in section caesarean surgeries.

Lack of implementation of ERAS programme for the cancer surgery in the resource-limited settings such as in Indonesia, may be mainly caused by the lack of competency of the health care personnel involved in the surgery care. Another cause is 70% of patients in such setting come to the hospital with advanced stage of cancer. The aim of the surgery in this group of patients is mainly for palliative purpose, to enhance the quality of life of the patients. For the cancer patients in earlier stage, the ERAS programme is more likely to be implemented effectively.

The main challenges for ERAS implementation is the lack of knowledge, lack of clinical leadership, and lack of desire to change.¹⁴ To address this issue, the ERAS society provides the implementation programmes which include the change management strategies, for example the use of Plan, Do, Study, Act (PDSA) programme.¹ For the nurses, the major difficulty of ERAS implementation is adapting to the protocol to meet the demands of the patient care delivery within the limitations and constraints of their roles as well as the organisational culture.¹⁵ Nurses need to have strong clinical leadership and the autonomy to adapt to the protocols while delivering individualised patient care in the surgical care pathway.¹⁵

In conclusion, oncology nurses play a vital and visible role in the ERAS programme. Nurses have the main roles as the key element in the programme and in giving the direct interventions especially in the pre-operative and postoperative period and after discharge. Nurses can also play a role in the ERAS coordination and audit system. Barriers to ERAS implementation for the nursing workforce need to be addressed with trainings and education for nurses and the recognised position of nurses in the multidisciplinary team.

Ethics statement

None declared.

Declaration of competing interest

None declared.

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