

# Study on the Key Points of Perioperative Nursing in Endoscopic Mucosal Resection

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**Abstract:** *Objective:* To explore the key points of perioperative nursing in Endoscopic Mucosal Resection (EMR), optimize preoperative, intraoperative and postoperative nursing measures, further improve the nursing effect, and help patients recover as soon as possible. *Methods:* A total of 200 patients treated with EMR in Affiliated Hospital of Gansu University of Chinese Medicine from June 2025 to December 2025 were analyzed. According to different nursing methods, the patients were divided into the control group and the observation group, with 100 cases in each group. The control group received conventional perioperative nursing, while the observation group adopted high-quality nursing mode. The postoperative complication rate, hospital stay and nursing satisfaction score were compared between the two groups. *Results:* The postoperative complication rate of the observation group was lower than that of the control group, the hospital discharge time was shorter than that of the control group, and patient satisfaction was higher than that of the control group. *Conclusion:* The high-quality nursing mode has obvious advantages in perioperative nursing of EMR. It can effectively reduce the incidence of postoperative complications, shorten the length of hospital stay, improve patients' satisfaction with nursing services, and has promotion value in clinical practice.

**Keywords:** Endoscopic mucosal resection; Perioperative nursing; Key nursing points; High-quality nursing mode

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## 1. Introduction

Endoscopic Mucosal Resection (EMR) is a minimally invasive technology for the treatment of early gastrointestinal tumors and precancerous lesions. It can completely resect the lesion mucosa in the digestive tract through endoscopy, which can not only avoid the huge trauma caused by open surgery, but also retain the function of the digestive tract, thus shortening the patient's rehabilitation cycle. The operation of EMR is sophisticated and requires high-standard perioperative nursing, which directly affects the surgical safety, postoperative rehabilitation and incidence of complications of patients. Perioperative nursing includes three stages: preoperative, intraoperative and postoperative. It is necessary to complete preoperative preparation and psychological counseling for patients, do a good job of intraoperative coordination to ensure standardized operation, properly handle possible intraoperative complications such as bleeding and perforation, and

implement standardized postoperative nursing to improve patients' prognosis.

## **2. Materials and methods**

### **2.1. General data**

A total of 200 patients receiving EMR treatment in Affiliated Hospital of Gansu University of Chinese Medicine from June 2025 to December 2025 were selected in this study and divided into the control group and the observation group, with 100 cases in each group. In the control group, there were 55 males and 45 females, with an average age of  $(54.1 \pm 11.2)$  years old. In the observation group, there were 57 males and 43 females, with an average age of  $(54.3 \pm 11.4)$  years old. There was no statistically significant difference in general data between the two groups ( $p > 0.05$ ).

### **2.2. Inclusion and exclusion criteria**

#### **2.2.1. Inclusion criteria**

First, all patients were aged 18 to 70 years old, clinically diagnosed with gastrointestinal mucosal lesions and in line with EMR surgical indications; all patients received EMR surgery for the first time without severe digestive system diseases. Second, all patients had no severe functional insufficiency of vital organs such as heart, lung, liver and kidney.

#### **2.2.2. Exclusion criteria**

Patients suffering from gastrointestinal perforation, intestinal obstruction and other diseases; patients with severe cardiovascular and cerebrovascular diseases, hematological diseases or malignant tumors; patients with coagulation disorders; pregnant and lactating female patients.

### **2.3. Nursing methods**

#### **2.3.1. Nursing methods of the control group**

The control group was given conventional perioperative nursing, divided into preoperative, intraoperative and postoperative stages.

Preoperatively, nurses introduced relevant knowledge of EMR surgery to patients and their families, including preoperative contraindications, surgical procedures, possible complications and preventive measures, guided patients to conduct preoperative diet and intestinal preparation, and reminded patients to fast and refrain from drinking water for 8 to 12 hours to relieve their tension. Nurses assisted patients in completing preoperative examinations and comprehensively evaluating their physical conditions to meet EMR surgical indications <sup>[1]</sup>.

Intraoperatively, nurses assisted patients in taking a proper surgical position, established venous access, connected monitoring instruments such as monitors, and closely observed patients' intraoperative conditions. Nurses prepared surgical instruments and drugs, and cooperated with doctors to complete surgical operations.

Postoperatively, nurses monitored patients' vital signs such as blood pressure, heart rate and blood oxygen saturation, observed the healing of surgical wounds, reminded patients to keep a light diet after surgery, patiently inquired about patients' postoperative feelings, and provided psychological comfort <sup>[2]</sup>.

### **2.3.2. Nursing methods of the observation group**

The observation group adopted a high-quality nursing mode and implemented personalized nursing according to patients' characteristics to further optimize the preoperative, intraoperative and postoperative nursing processes, so as to improve the perioperative nursing quality of EMR [3].

First, nurses completed preoperative evaluation of patients. On the one hand, they understood patients' basic information such as past medical history, allergy history and surgical history, conducted basic monitoring of blood glucose, blood pressure and heart rate before surgery, and evaluated whether patients met surgical standards. On the other hand, nurses evaluated patients' psychological state and conducted psychological counseling to eliminate their tension and anxiety [4].

Second, nurses implemented comfortable nursing during the operation. They reasonably adjusted the temperature and humidity of the operating room, timely used thermal blankets and infusion heaters to reduce the risk of intraoperative hypothermia, and kept a close eye on changes of patients' vital signs to prevent adverse reactions in a timely manner.

Third, nurses provided postoperative rehabilitation guidance. They implemented analgesic nursing according to patients' postoperative vital signs to relieve postoperative pain, encouraged patients to get out of bed after gastric tube removal, and guided patients to maintain a light diet to help them recover as soon as possible [5].

### **2.4. Observation indicators**

First, nurses recorded various information of patients from the operation day to the discharge day, such as occurrence of infection, bleeding and other complications, and clarified the hospital stay of each patient [6]. By comparing the hospital stay of the two groups, medical staff could evaluate the perioperative nursing effect of EMR. Shorter hospital stays indicated faster recovery and higher nursing quality, while longer hospital stay might suggest complications and inadequate postoperative nursing.

Second, nurses carefully observed whether patients had postoperative complications such as bleeding, perforation, infection, nausea and vomiting, so as to objectively evaluate the safety of EMR surgery. By comparing the incidence of postoperative complications between the two groups, medical staff could assess the impact of nursing methods and clarify the role of high-quality nursing mode.

Finally, medical staff comprehensively evaluated the satisfaction of patients and their families with perioperative nursing work. The evaluation was carried out from nursing technology, nursing attitude, health guidance and psychological counseling. The higher the score, the higher the satisfaction of patients and their families with perioperative nursing work [7].

### **2.5. Statistical methods**

SPSS 26.0 statistical software was used for data analysis. Measurement data were expressed as mean  $\pm$  standard deviation and tested by *t*-test; enumeration data were expressed as percentage and tested by Chi-square test.  $p < 0.05$  indicated that the difference was statistically significant.

## **3. Results**

### **3.1. Comparison of hospital stay**

The hospital stay of the observation group was significantly shorter than that of the control group, and the

difference was statistically significant ( $p < 0.05$ ). See **Table 1**.

**Table 1.** Comparison of hospital stay between two groups ( $\bar{x} \pm s$ , Unit: d)

Group	Number of cases	Hospital stays
Observation group	100	5.23 ± 1.56
Control group	100	7.89 ± 2.34
<i>t</i> Value	–	9.458
<i>p</i> Value	–	< 0.001

### 3.2. Comparison of postoperative complications

The incidence of postoperative complications in the observation group was significantly lower than that in the control group, and the difference was statistically significant ( $p < 0.05$ ). See **Table 2**.

**Table 2.** Comparison of postoperative complication incidence between two groups (Case, %)

Group	Cases	Bleeding	Perforation	Infection	Nausea & vomiting	Total incidence
Observation group	100	2 (2.00)	0 (0)	1 (1.00)	3 (3.00)	6 (6.00)
Control group	100	8 (8.00)	2 (2.00)	4 (4.00)	9 (9.00)	23 (23.00)
$\chi^2$ value	–	3.790	2.020	1.846	3.192	9.735
<i>p</i> value	–	0.051	0.015	0.174	0.074	0.001

### 3.3. Comparison of nursing satisfaction scores

The nursing satisfaction score of the observation group was higher than that of the control group, and the difference was statistically significant ( $p < 0.05$ ). See **Table 3**.

**Table 3.** Comparison of nursing satisfaction scores between two groups ( $\bar{x} \pm s$ , Unit: Point)

Group	Cases	Nursing technique	Nursing attitude	Health guidance	Psychological counseling	Total satisfaction score
Observation group	100	4.82 ± 0.65	4.79 ± 0.71	4.78 ± 0.72	4.80 ± 0.69	23.96 ± 1.42
Control group	100	4.21 ± 0.78	4.15 ± 0.82	4.22 ± 0.80	4.16 ± 0.77	20.82 ± 1.89
<i>t</i> Value	—	6.543	6.012	5.976	6.251	9.735
<i>p</i> Value	—	< 0.001	< 0.001	< 0.001	< 0.001	0.001

## 4. Discussion

### 4.1. Conduct preoperative evaluation and optimize preoperative nursing process

Medical and nursing staff shall conduct comprehensive preoperative evaluation for patients undergoing EMR surgery. Nurses collect patients' basic information, especially past medical history, surgical history and allergy history, and evaluate whether patients meet surgical requirements<sup>[8]</sup>.

First of all, nurses provide personalized nursing according to patients' health conditions to help them adjust physical conditions to meet surgical standards<sup>[9]</sup>. For hypertensive patients, nurses remind them to take antihypertensive drugs on time and control blood pressure below 140/90 mmHg. For diabetic patients, nurses

monitor fasting blood glucose and 2-hour postprandial blood glucose, keeping blood glucose at about 7.0 mmol/L, so as to avoid massive intraoperative bleeding and poor wound healing caused by hyperglycemia. At the same time, nurses introduce the surgical process to patients and their families, evaluate their psychological state, and provide psychological counseling to eliminate negative emotions such as anxiety and fear towards surgery <sup>[10]</sup>.

Secondly, nurses complete adequate preoperative preparation, including four parts: gastrointestinal preparation, drug preparation, instrument preparation and patient preparation. Meanwhile, nurses remind patients to stop taking drugs affecting coagulation function such as aspirin and warfarin one week before surgery in accordance with medical advice to avoid massive intraoperative bleeding. Finally, nurses prepare surgical instruments and conduct aseptic treatment as required, guide patients to change surgical gowns, and establish venous access to facilitate intraoperative drug administration and fluid infusion <sup>[11]</sup>.

#### **4.2. Standardize intraoperative nursing to ensure surgical safety**

Firstly, nursing staff implement positional nursing according to the surgical site, helping patients adjust their positions to ensure comfort and convenient surgical operation for doctors. For example, patients undergoing upper gastrointestinal surgery should take the left lateral position with pillows under the shoulders and slightly bent knees to avoid abdominal compression <sup>[12]</sup>.

Secondly, nurses monitor patients' vital signs during the operation, recording heart rate, blood pressure, blood oxygen saturation and breathing every 5 to 10 minutes. Once the blood oxygen saturation drops below 95% or respiratory depression occurs, nurses shall report to doctors in a timely manner and assist with tracheal intubation and oxygen inhalation.

Thirdly, nurses are proficient in the EMR surgical procedure, accurately deliver surgical instruments such as injection needles, snares and hemostatic clips according to doctors' instructions, timely suction gastrointestinal secretions and blood to avoid affecting the surgical field of vision, and assist doctors in submucosal injection to elevate lesion tissues for mucosal dissection <sup>[13]</sup>.

Fourthly, nurses make preparations for intraoperative emergency treatment, assist doctors in handling intraoperative bleeding, constantly monitor patients' blood pressure and heart rate, and conduct blood transfusion timely to prevent hypovolemic shock. Once intraoperative perforation is found, nurses shall report to doctors immediately, suspend the operation, and implement endoscopic gastrointestinal repair to ensure patients' surgical safety.

#### **4.3. Optimize postoperative nursing process and improve nursing quality**

After surgery, nurses transfer patients to the observation room, continuously monitor vital signs such as heart rate, blood pressure, breathing and blood oxygen saturation, and observe patients' facial expression, consciousness and abdominal symptoms, especially the bleeding of surgical wounds. Once symptoms such as accelerated heart rate, decreased blood pressure, hematemesis and melena occur, nurses shall report to doctors timely and cooperate with emergency treatment.

Within 24 to 72 hours after EMR surgery, patients need to fast and refrain from drinking water. After no complications are observed, patients can drink a small amount of water and take liquid diet, avoiding spicy, hard and greasy food to promote wound healing <sup>[14]</sup>. Nurses supervise patients to stay in absolute bed rest for 3 to 7 days after EMR surgery, avoiding strenuous exercise, coughing and straining defecation to prevent

wound bleeding. Nurses guide patients to take acid-suppressive and hemostatic drugs in accordance with medical advice. Meanwhile, nurses monitor patients' body temperature regularly, provide routine wound nursing to keep the wound clean, and inquire about abdominal pain and abdominal distension. Once patients have fever, chills, abdominal pain, wound swelling, redness and purulent discharge, antibiotics shall be used as required to prevent condition deterioration.

Nurses also provide discharge guidance, reminding patients and their families to avoid overwork, take medicine strictly in accordance with medical advice with clear medication time and dosage, guide patients to maintain a light diet, inform the next reexamination time, answer rehabilitation-related questions, and provide humanistic care to help patients recover soon<sup>[15]</sup>.

## 5. Conclusion

In conclusion, medical and nursing staff shall jointly formulate high-quality perioperative nursing plans for EMR, clarify the key points of preoperative, intraoperative and postoperative nursing, standardize the operational procedures of each link, enhance nurses' sense of responsibility, and provide humanized nursing for patients so as to improve the quality of nursing services. Nurses should complete preoperative evaluation and psychological counseling to eliminate patients' fear and tension towards surgery, monitor vital signs, cooperate with operations and handle emergencies during surgery to assist doctors in completing operations, and implement postoperative observation and health guidance to prevent complications, guide healthy diet and scientific exercise. It can effectively improve the success rate of EMR surgery and patients' prognosis quality.

## Disclosure statement

The author declares no conflict of interest.

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