

# Exploration on the Application Effect of Optimized Nursing and Intraoperative Heat Preservation on Laparoscopic Surgery

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**Abstract:** Objective To explore the application effect of optimized nursing and intraoperative heat preservation in laparoscopic surgery. Methods Sixty-four patients who underwent laparoscopic minimally invasive surgery in our hospital from January to August 2020 were selected as the survey subjects of this study. According to the admission sequence number, they were randomly divided into study group and control group, with 32 patients in each group. The control group carried out routine perioperative nursing intervention; the research group carried out optimized nursing cooperation and supplemented the patients with heat preservation during the operation, and observed the application effects of the two nursing modes. Results The patients in the study group were better than the control group in terms of treatment time, hospital stay, doctor's satisfaction with surgery, positive incidence of postoperative complications, and body temperature changes within different periods of time. The difference was significantly statistically significant ( $P < 0.05$ ). Conclusion When performing laparoscopic minimally invasive surgery, it is necessary to implement intraoperative warmth measures for patients as appropriate, optimize nursing cooperation, improve hospital work efficiency, help patients recover as soon as possible, and reduce the incidence of postoperative adverse reactions.

## 1. Introduction

In recent years, China's medical and health industry has developed rapidly, and the application of various new medical technologies has become more and more common. Laparoscopic surgery is a minimally invasive surgical treatment developed in this era. The operation is simple and correct. The patient's stress injury is small, which can effectively reduce the patient's medical expenses and reduce the pressure on diagnosis and treatment of medical institutions. Therefore, the postoperative procedure is generally used in the clinical treatment of patients with acute abdomen, and the scope of treatment covers hepatobiliary surgery, Spleen and pancreas disease surgery, gastrointestinal surgery, chest disease surgery, neck and breast disease surgery, urinary system disease surgery and other fields. Nursing is an important content throughout the treatment, and it has an important influence on helping patients to recover their functions and improving the treatment effect. In view of this, our hospital has adopted intraoperative warmth combined with postoperative optimization nursing intervention for some laparoscopic minimally invasive patients admitted from January to August 2020, and achieved good clinical results. The implementation process and results are now reported as follows.

## 2. Materials and Methods

### 2.1 General Information

The study subjects selected 64 patients who underwent laparoscopic minimally invasive surgery in our hospital from January to August 2020, and randomly divided them into a study group and a control group according to their admission serial number, with 32 cases in each group. In the control group, there were 18 male patients and 14 female patients, ranging in age from 34 to 62 years old, with a median age of  $(51.25 \pm 4.23)$  years old. Type of operation: 8 cases of

cholecystectomy, 9 cases of appendectomy, 7 cases of adrenalectomy, 8 cases of pulmonary bulla resection; 16 male patients and 16 female patients in the study group, aged 35-64 years old, median age (50.96±3.78) years old, type of operation: 7 cases of cholecystectomy, appendectomy There were 8 cases of surgery, 9 cases of adrenalectomy, and 8 cases of pulmonary bullectomy. The clinical information of the two groups was balanced, and there was no statistically significant difference between the groups ( $P>0.05$ ).

## **2.2 Case Selection and Exclusion**

The criteria for the cases selected in this investigation and study include: the patient is conscious, aware of the study and signed an informed consent form, is clinically proven to meet the indications for laparoscopic surgery, postoperative vital signs are stable, and cooperate throughout the study; exclude severe cardiovascular diseases Diseases, heart dysfunction, low lung function, coagulation dysfunction, blood disease, flatulence, malignant tumor, hepatitis, diabetes, hyperthyroidism, pregnancy and lactation.

## **2.3 Method**

Carry out routine care and surgical cooperation in the operating room for this group of patients, mainly including paying close attention to the patient's vital signs after the operation, following the doctor's advice to give corresponding drug treatment, establishing intravenous access, keeping the ward environment quiet and tidy, controlling the indoor temperature and humidity, and routine ward disinfection , Drape, etc., to ensure that patients receive treatment and care in a comfortable environment.

For this group of patients, an optimized nursing plan was adopted and a variety of thermal insulation measures were applied during the operation. First, organize the medical staff participating in this research to conduct professional training, formulate optimized nursing plans, clarify job responsibilities, strengthen the professional skills and professional qualities of nursing staff, establish nursing norms flowcharts, give full play to the advantages of human resources, and implement a nursing responsibility system. The specific nursing content is assigned to the responsible nurse. Secondly, collect the basic information of the patient, evaluate the patient's disease cognition and psychological endurance, implement personalized health education according to the patient's understanding and psychological acceptance, inform the patient of the meaning and effect of the operation, and briefly introduce the surgical method, Anesthesia, intraoperative and postoperative complications, and clinical countermeasures, enhance patients' trust in professional medical care, and avoid excessive anxiety and negative emotions that are not conducive to clinical treatment. Thirdly, before the operation starts, the temperature of the air conditioner cleaner in the operating room is set to 22°C-24°C, and the humidity is set to 40%-60% to ensure the best comfort for the patient during treatment and avoid the physical discomfort caused to the patient due to the operating environment; The instrument nurse prepares medical surgical instruments according to the list in advance to ensure the smooth progress of the operation; performs preoperative adjustment of the laparoscope to ensure that its clarity can meet the requirements of the operation; implements general anesthesia on the patient, and heats the irrigation fluid and intravenous infusion in advance and keeps it constant 37- 38°C standby, the operating bed is covered with a heating blanket and the upper limbs are insulated with split insulation. During the operation, the patient's skin exposure is minimized, and the patient is provided with insulation services as much as possible; the operation of the clinician during the operation is observed, and the needs are provided in time Medical equipment such as dressings, scissors, hemostatic forceps, etc.; after the operation is carried out to electrocoagulation to stop bleeding, assist the doctor in pelvic washing of the patient; check and classify the medical equipment used in the operation; turn on the air conditioner in advance after returning to the ward after the operation. Keep the indoor temperature appropriate, closely observe the vital signs of the patient, and intervene in time for adverse reactions; give patients reasonable dietary advice after surgery, and encourage them to move as soon as possible, promote intestinal peristalsis, and avoid abdominal pain and bloating.

## 2.4 Observation Indicators

A questionnaire was used to collect the doctor's satisfaction rate with respect to the degree of surgical cooperation, and to compare the treatment time and hospital stay of the two groups of patients; the patient's body temperature was recorded before the operation, 30 minutes during the operation, 90 minutes during the operation, and 5 minutes after the operation. The body temperature changes of the patients in the two groups; observe and record the type and probability of adverse reactions after the operation of the patients in the two groups.

## 2.5 Statistical Analysis

For this study, SPSS 22.0 statistical software was used for data processing, in which treatment time, hospitalization time, and body temperature were expressed as mean  $\pm$  standard deviation, and data between groups were compared by t; surgical cooperation and adverse reactions were expressed in terms of rate or composition ratio. The  $\chi^2$  test was used to compare the pairwise data, and the difference was statistically significant with the test value  $P < 0.05$ .

## 3. Results

### 3.1 Treatment Time and Hospital Stay

The treatment time of patients in the study group was (54.5 $\pm$ 10.2) min, which was significantly shorter than that of the control group (69.3 $\pm$ 11.9), the test value was  $t=5.269$ ,  $p=0.012$ ; the hospital stay of the observation group was (4.2 $\pm$ 1.9) d compared with the control group (6.7 $\pm$ 2.1)d is in sharp contrast,  $t=4.735$ ,  $p=0.016$ , see Table 1.

Table 1 Comparison of Treatment Time and Hospitalization Time between the Study Group and the Control Group

Gr	Treat Time(min)	Hospital stay(d)
Research Gr.(n=32)	54.5 $\pm$ 10.2	4.2 $\pm$ 1.9
Control Gr.(n=32)	69.3 $\pm$ 11.9	6.7 $\pm$ 2.1
t	5.269	4.735
P	0.012	0.016

### 3.2 Intraoperative Coordination and Comparison of Complications

After adopting the optimized nursing plan, the surgeons in the study group were generally satisfied with the degree of cooperation during the operation. The satisfaction rate reached 100% (32/32), which was significantly higher than 87.50% (28/32) in the control group. In addition, the study The postoperative complication rate of patients in the group was only 15.625% (5/32), which was significantly lower than 40.625% (13/32) in the control group. The statistical difference between the two groups was significant ( $P < 0.05$ ), as shown in Table 2.

Table 2 Comparison of Satisfaction Rate and Complication Rate of Intraoperative Cooperation between the Two Groups

Gr	Satisfaction rate(n%)	Complication rate(n%)
Research Gr.(n=32)	32(100.00)	5(15.625)
Control Gr(n=32)	28(87.5)	13(40.625)
$\chi^2$	7.289	10.134
P	0.008	0.002

### 3.3 The Patient's Body Temperature Changes

Before the operation, the body temperature of the two groups of patients were the study group (36.7 $\pm$ 0.6)  $^{\circ}\text{C}$  and the control group (36.7 $\pm$ 0.7)  $^{\circ}\text{C}$  ( $P > 0.05$ ), the operation was carried out to 30min, 90min and 5min after the operation, the body temperature of the study group was both Maintained within the normal body temperature range, while the body temperature of patients in the control group was lower, and the difference between the groups was statistically significant ( $P < 0.05$ ).

Table 3 Comparison of Body Temperature Changes between the Two Groups of Patients At Different Time Points

Tems	Before surgery(°C)	Under Surgery 30min(°C)	Under Surgery 90min(°C)	Afer Surgery 5min(°C)
Research Gr.(n=32)	36.7±0.6	36.5±0.4	36.2±0.8	36.3±0.7
Control Gr.(n=32)	36.7±0.7	35.6±0.3	35.2±0.4	35.6±0.5
P	0.715	0.005	0.001	0.008

#### 4. Discussion

Laparoscopic surgery is a new type of minimally invasive surgical treatment developed during the continuous advancement of medical technology. It has been applied in many clinical fields. This operation has the advantages of simple operation, less trauma, and short recovery period for patients. It has good clinical effects and is recognized by the majority of medical staff and patients. Doctors can observe the physiology and case morphology of the lesion more intuitively through the laparoscopic field of vision, and the treatment with ultrasonic scalpel is more targeted. However, improper care during the perioperative period will also bring about a series of effects that are not conducive to prognostic evaluation. How to optimize the nursing path of laparoscopic surgery and ensure the achievement of the treatment effect is a key issue that has always plagued relevant medical workers. In addition, maintaining a constant body temperature during the operation is a prerequisite for maintaining the stable operation of the body system and maintaining the normal physical signs. When the patient is anesthetized, the body's body temperature regulation center responds slowly. In addition, during the operation, most of the patient's skin tissue is exposed to the surgical field. The fluid that maintains vital signs is continuously pumped into the patient's body, which often causes the patient's body temperature to be hypothermic, affects the normal blood transfusion function of the heart, and easily induces serious complications such as myocardial ischemia and coagulopathy, which is not conducive to the realization of clinical effects. Based on the above situation, our hospital proposed to adopt optimized nursing care and intraoperative warmth measures for laparoscopic surgery, and achieved relatively ideal results.

The results of the study showed that after the implementation of optimized nursing care and intraoperative warm-keeping measures, the observation group had better cooperation in the operation process, thereby reducing the operation time. In addition, after the implementation of this measure, the incidence of patient complications was lower, and thus shortened Hospitalization time reduces the patient's diagnosis and treatment costs; the patient's body temperature is relatively constant before, during and after the operation, which is significantly different from the control group who performs conventional care ( $P < 0.05$ ), suggesting that optimizing nursing and intraoperative warmth can be It can effectively reduce the sudden drop in body temperature after surgery, and has a positive impact on improving the cooperation between doctors and patients and reducing postoperative complications.

In summary, strengthening nursing cooperation and supplementing patients with warm care during the operation can speed up the operation process, reduce the stress injury of the patient, help the patient recover as soon as possible, and promote the reduction of the pressure on diagnosis and treatment and the economic burden of the family. It is worthwhile Clinical promotion and application.

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