

# Application of Specialized Group Management in the Quality Control of Perioperative Nursing

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**Abstract:** *Objective:* To explore the role of specialized group management in the quality control of perioperative nursing. *Methods:* 45 surgical nurses from our hospital were selected as the research subjects. Traditional operating room management was adopted from July 2019 to June 2020, and specialized group management was adopted from July 2020 to June 2021. The surgeon's satisfaction, surgical nurses' core professional competence, and surgical patients' satisfaction were obtained through surveys and the results were analyzed. *Results:* Surgeon satisfaction before the implementation of specialized group management was significantly lower than after its implementation ( $P < 0.05$ ). Besides, surgical nurses' core professional competency scores before the implementation of specialized group management were significantly lower than after its implementation ( $P < 0.05$ ). Lastly, surgical patients' satisfaction before the implementation of specialized group management was significantly lower than after its implementation ( $P < 0.05$ ). *Conclusion:* Specialized group management helps to improve the quality of perioperative care and should be applied in clinical practice.

**Keywords:** Specialized group management; Operating room; Quality of care; Control

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## 1. Introduction

With the continuous development of medical technology, the quality of nursing care and management of operating rooms have also been improving. There are some shortcomings in the traditional way of perioperative nursing management. Firstly, the heavy workload, high work pressure, and insufficient staffing in the operating room led to excessive work pressure and low efficiency of nursing staff<sup>[1]</sup>. Secondly, the skill level of surgical nurses varies, and the lack of specialized nursing knowledge and skills affects the quality of perioperative nursing<sup>[2]</sup>. Lastly, surgical nurses lack an effective coordination and communication mechanism, leading to confusion and errors in their work<sup>[3]</sup>. In order to better meet the needs of patients and improve the efficiency of the operating rooms, specialized group management has gradually been introduced into the quality control of perioperative care.

## 2. Information and methods

### 2.1. General information

Forty-five surgical nurses from our hospital were selected as the research subjects. The nurses were 22–45 years old, with an average of  $30.51 \pm 4.23$  years old. Among them, 35 were bachelor's degree holders and 10 were junior college graduates; there were 9 deputy chief nurse practitioners, 13 chief nurse practitioners, 9 nurse practitioners, and 14 nurses. Traditional operating room management was adopted from July 2019 to June 2020, and specialized group management was adopted from July 2020 to June 2021.

### 2.2. Methods

Before the implementation of the specialized group management, all nursing staff involved in the study were trained to understand the significance and workflow of this management system. The training included several aspects.

#### (1) Nursing knowledge of specialized diseases

Training was given on preoperative preparation and postoperative treatment and observation of various surgeries, including but not limited to surgical site cleaning, skin preparation, psychological care, etc. The nurses were taught the correct placement and protection of the surgical position, as well as cooperation in the surgical process, to ensure that surgeries could be carried out smoothly. Besides, the use and maintenance of various surgical instruments were taught, along with the correct method and steps of delivery. The nurses familiarized themselves with various post-surgery complications and the treatment methods, as well as related preventive measures<sup>[4]</sup>. The pathophysiology, diagnosis, and treatment principles of specialized diseases were also taught to provide patients with comprehensive care<sup>[5]</sup>.

#### (2) Communication skills

The nurses learned to communicate effectively with patients and their families, including but not limited to preoperative notification, intraoperative reassurance, postoperative follow-up, etc. They also learned to communicate effectively with doctors, anesthesiologists, and other members of the surgical team to ensure the smooth progress of surgeries. The training also covered communication with coworkers, including but not limited to the work handover, teamwork, etc<sup>[6]</sup>. Furthermore, they learned to listen and understand the demands and concerns of patients and their families and provide timely answers and reassurance<sup>[7]</sup>. Lastly, they were taught to explain the surgical process and postoperative precautions to patients and their families in clear and concise language.

#### (3) Teamwork

Teamwork with other medical and nursing staff in completing the surgical tasks was emphasized. The nurses learned to play their own advantages in the team and provide necessary support and help<sup>[8]</sup>. They also learned to deal with conflicts and contradictions within the team to maintain a harmonious relationship between the team members. Besides, they learned to work closely with the doctors, anesthesiologists, and other team members, to ensure the surgeries can be performed smoothly. Leadership skills were also taught so that the nurses knew how to lead and coordinate the team members.

According to the main types of surgeries performed, the surgical nurses were divided into groups specializing in laparoscopic surgery, general surgery, neurosurgery, urology, orthopedics, cardiothoracic surgery, and ear, nose, throat, and stomatology. Each group had a team leader. The selection of team leader and team members is based on the nurses' interests, and a two-way selection and allocation was implemented. The specialties of each nurse were fixed upon the approval of the director of each specialty. These specialized groups would then be under the responsibility of the group leader, and the head nurse and the head nurse of the

department would be responsible for the overall arrangement. According to the characteristics of the specialties in charge, each team formulated corresponding nursing plans and operation procedures, and they were adjusted and updated regularly. At the same time, the nursing staff underwent rotation among different specialties so that they could be exposed to different specialties and improve their comprehensive quality.

### 2.3. Observation indicators

#### (1) Surgeon satisfaction

The surgeons' satisfaction with the surgical nurses in terms of elective surgery, emergency surgery, and multidisciplinary cooperation in surgery were evaluated in six aspects: service attitude, preoperative preparation, surgical position, use of instrumentation and equipment, surgical cooperation, and efficiency. There were four options for each item: Very satisfied, satisfied, neutral, and dissatisfied.

#### (2) Core professional competencies of surgical nurses

The core competency scale used in this study is a modified version of the scale for registered nurses in the "Core Competency Framework for Nurses" published by the International Council of Nurses (ICN) in 2003. The core competency framework for registered nurses in China was established through qualitative research, which includes the following items: It consists of 7 dimensions and 58 items, including critical thinking and research skills (10 items), leadership skills (10 items), nursing skills (9 items), interpersonal skills (8 items), ethical and legal practice (8 items), education and counseling (7 items), and professional development (6 items). Each entry was scored on a Likert-5 scale with 0 = no competence, 1 = barely competent, 2 = somewhat competent, 3 = adequate competent, and 4 = very competent. The Cronbach's of the scale was 0.890, and the retest reliability was 0.830, which had good reliability and validity.

#### (3) Surgical patient satisfaction

A self-designed surgical patient satisfaction questionnaire was used to evaluate patient satisfaction, which contained patient comfort, the understanding of the content of routine visits and patient education, and satisfaction with the service of the surgical nurses.

### 2.4. Statistical methods

SPSS19.0 software was used for statistical analysis. Measurement data were expressed as mean  $\pm$  standard deviation, and they were compared using *t*-tests; count data were expressed as percentages and compared using  $\chi^2$ -tests. The difference was considered statistically significant at  $P < 0.05$ .

## 3. Results

### 3.1. Surgeon satisfaction

Surgeon satisfaction significantly increased after the implementation of specialized group management ( $P < 0.05$ ), as shown in **Table 1**.

**Table 1.** Surgeon satisfaction

Group	Number of cases	Very satisfied	Satisfied	Neutral	Dissatisfied	Satisfaction ( <i>n</i> [%])
Pre-implementation	45	10	18	7	11	27 (60.00)
Post-implementation	45	21	16	5	3	37 (82.22)
$\chi^2$						5.41
<i>P</i>						0.02

### 3.2. Core professional competence of surgical nurses

The core professional competence scores of surgical nurses before the implementation of specialized group management were significantly lower than those after the implementation ( $P < 0.05$ ) as shown in **Table 2**.

**Table 2.** Core professional competence of surgical nurses (mean  $\pm$  standard deviation, points)

Group	Pre-implementation( $n = 45$ )	Post-implementation ( $n = 45$ )	$t$	$P$
Critical thinking and research skills	2.14 $\pm$ 0.36	3.45 $\pm$ 0.41	16.11	0.00
Leadership skills	2.01 $\pm$ 0.11	3.36 $\pm$ 0.19	41.25	0.00
Nursing skills	2.09 $\pm$ 0.21	3.42 $\pm$ 0.24	26.29	0.00
Interpersonal skills	1.98 $\pm$ 0.16	3.06 $\pm$ 0.28	20.70	0.00
Ethical and legal practice	1.99 $\pm$ 0.51	3.19 $\pm$ 0.36	12.89	0.00
Educational counseling	2.41 $\pm$ 0.34	3.32 $\pm$ 0.44	10.86	0.00
Professional development	2.06 $\pm$ 0.43	3.21 $\pm$ 0.38	13.44	0.00

### 3.3. Surgical patient satisfaction

The satisfaction of surgical patients increased after the implementation of specialized group management ( $P < 0.05$ ), as shown in **Table 3**.

**Table 3.** Satisfaction survey of surgical patients

Group	Number of cases	Very satisfied	Satisfied	Neutral	Dissatisfied	Satisfaction ( $n$ [%])
Pre-implementation	45	10	18	10	7	28 (62.22)
Post-implementation	45	21	15	6	2	37 (82.22)
$\chi^2$						4.49
$P$						0.03

## 4. Discussion

Specialized group management is a new type of nursing management mode, the core of which is to group nursing staff according to different specialties, and to develop corresponding nursing plans and operating procedures according to the characteristics of each specialty<sup>[9]</sup>. In this way, the needs of patients can be better met and the quality and efficiency of nursing care can be improved.

The application of specialized group management in the operating room allows the optimization of workflow according to the characteristics of the specialty, making it more efficient. Through specialized group management, nursing staff can be more focused on their specialties and improve their skills. Specialized group management can promote the exchange and collaboration between the nursing staff of different fields and strengthen teamwork spirit. Through specialized group management, quality control and assessment can be carried out more effectively, and problems can be detected and solved in a timely manner. This mode of management also allows more specialized and personalized nursing services, thus improving the patient's satisfaction and trust in the medical staff<sup>[10-16]</sup>.

The results of this study showed that the ratings of core professional competencies of surgical nurses increased after the implementation of specialized group management. This indicates that the quality of care in the operating room was significantly improved after the implementation of specialized group management.

Furthermore, the implementation of specialized group management also resulted in an increase in patient satisfaction. This showed that the degree of standardization of nursing operation was significantly improved, and under the specialized group management, each group of nursing staff needed to work in accordance with the established operating procedures. Under specialized group management, each group of nursing staff needs to work according to the standard operating procedures, which results in the standardization of nursing care given. Consequently, the patients and surgeons will be more satisfied with the surgical nurses. While this mode of management comes with many advantages, there are still some challenges and problems in practical applications, such as staffing, cross-group collaboration, training and management, and patient privacy protection. Therefore, team leaders need to take appropriate countermeasures to ensure the benefits of this management can be maximized<sup>[17]</sup>.

## 5. Conclusion

In summary, specialized group management has an important role and value in the quality control of perioperative care. It can optimize the workflow, improve the professionalism of nursing staff, enhance teamwork, strengthen quality control, and improve patient satisfaction. Therefore, this mode of operating room management should be popularized.

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## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] Li H, 2021, Importance of Specialized Group Management for Operating Room Management in Chinese Hospitals. *Journal of Chinese Medicine Management*, 29(15): 70–71.
- [2] Liu T, Chen G, Liang B, 2021, Application of Specialized Group Management Mode in Operating Room Nursing. *Health Career Education*, 39(15): 151–153.
- [3] Xiong G, Sun N, Xu Y, 2021, Impact of Subspecialty Group Management on Improving Nursing Management Effectiveness in the Operating Room. *Qilu Nursing Journal*, 27(06): 157–159.
- [4] Chen J, 2021, Application of Specialized Group Management in Quality Control of Operating Room Management. *Journal of Chinese Medicine Management*, 29(04): 145–146.
- [5] Chen J, Xie X, Jiang X, 2020, Evaluation of the Application Effect of Specialty Grouping in Operating Room Instrument Management. *Journal of Practical Cardiovascular and Pulmonary Vascular Disease*, 28(S2): 154–156.
- [6] Zhang S, Xu F, Li X, et al., 2020, Application of Specialized Grouping Combined with Nursing Quality Sensitive Indicator Setting in Operating Room Nursing Management. *Health Career Education*, 38(18): 137–139.
- [7] Mao Z, 2020, The Value of Disease Diagnosis-Related Group Management in the Evaluation of Specialized Medical Services. *Journal of Chinese Medicine Management*, 28(06): 222–223.
- [8] Liu Q, Li Y, Dong C, 2020, Research Progress on the Teaching Management Model of Stratified Grouping of Nursing Staff in the Operating Room. *Electronic Journal of Practical Clinical Nursing*, 5(10): 166–167.

- [9] Li J, Li Y, Huang S, et al., 2020, Practical Effects of Operating Room Specialization and Soft Lens Group Management in Ureteral Soft Lens Holmium Laser Lithotripsy. *Minimally Invasive Medicine*, 15(01): 114–116.
- [10] Wang X, Xu J, Zhang L, 2020, Practical Exploration of the Implementation of Ophthalmic Specialty Group Management Mode in Comprehensive Operating Room. *Electronic Journal of Practical Clinical Nursing*, 5(04): 182–183.
- [11] Jin L, Liu Y, Liu B, 2019, Exploration of Management Ideas Based on the Analysis of Diagnosis-Related Subgroup Costs of a Disease in a Specialized Hospital. *West China Medicine*, 34(12): 1379–1383.
- [12] Li H, Wang P, Quan G, 2019, Application of Specialized Group Management in Quality Control of Operating Room Nursing. *Qilu Nursing Journal*, 25(16): 128–130.
- [13] Song A, Zhang T, 2018, Application of Group Management of Specialized Nurses in Clinical Work. *World Digest of Latest Medical Information*, 18(39): 234 + 237.
- [14] Li G, Zhu F, 2016, The Application of Standardized Training in the Management of Specialty Grouping in The Operating Room. *China Drugs and Clinics*, 16(04): 597–598.
- [15] Li Z, Lin G, Fan Y, 2016, Methods and Effects of Implementing Group Management of Specialized Nurses in the Operating Room of a Specialized Hospital. *Medical Education Management*, 2(02): 478–480.
- [16] Dang A, Wen F, 2015, The Use of Nursing Specialty Grouping in Operating Room Nursing Management. *Huaihai Medicine*, 33(05): 502–503.
- [17] Zhang L, 2015, Practical Exploration of the Implementation of Nursing Specialty Grouping Management Mode in the Operating Room. *Health Career Education*, 33(17): 132–133.

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