# Standardization of Quality Control Process in Clean Operating Room

Feng Zhao<sup>1</sup>, Xiaojing Li<sup>1</sup>, Yanyan Wang<sup>1</sup>, Xueying Zhou<sup>2,\*</sup>

<sup>1</sup> Department of Operating Room, China-Japan Union Hospital of Jilin University, Changchun, Jilin,130033, China.

\* Corresponding author

Keywords: Quality Control, Clean Operating Room, Process Standardization

**Abstract:** Objective: To explore the effective operation management method of clean operating room and reduce the infection rate of surgical incision. Methods: The clean operating room was managed by personnel, environment, operation and staff concepts and work attitudes, and the clean room effect was regularly monitored. Results: The air culture in the operating room was in line with national health standards, and the infection rate of sterile surgical incision was 0.03%. A clean operating room with reasonable design and standardized management can guarantee the cross-infection of surgical operation, improve the success rate of surgery, and prevent postoperative sequelae. It also improves the working environment of the medical staff and the treatment environment of the patient. The operation is safe and the comfort is improved. Conclusion: Scientific and rigorous management is the key to ensuring the effective operation of the operating room.

### 1. Introduction

The clean operating room is one of the important indicators for hospital construction. With the development of modern science and technology and the transformation of medical models, more and more equipment has entered the clean operating room. Although modern instruments and equipment can make the operation go smoothly, it also makes the original operating room appear crowded and increases the chance of infection. Therefore, standardized management of clean operating rooms plays an important role in reducing exogenous surgical infections. In order to reduce the infection rate of exogenous surgery, it is necessary to standardize the management of the equipment, personnel, layout, cleaning, disinfection, etc. in the operating room. After the standardized operation of the clean operating room in our hospital, the items and equipment in the operating room are placed neatly and orderly, and the operating room is clean, which makes full use of people, things and time, reduces ineffective labor, improves work efficiency, and reduces surgical incision. The infection rate has achieved certain results. At the same time, the satisfaction of doctors, nurses and patients has been improved.

## 2. Operating room management

To strictly control the operating room personnel, before entering the operating room, the staff must strictly follow the standard and must wear a hat and a mask. Slippers and surgical gowns are not allowed to move around in the operating room. It is prohibited to promote the entry and exit of people who can be infected in the respiratory tract. Minimize the frequency of the "switch" door during surgery, maintain the positive pressure of the operating room, and fully guarantee the quality of the operating room. The operating room is responsible to the people. The nurses consciously abide by various norms, operating procedures, rules and regulations, and develop good working habits, so that everyone can trust each other, improve work efficiency and quality of care, prevent mistakes and strengthen patient safety. Establish management organization of instruments and

DOI: 10.25236/icemeet.2019.296

<sup>&</sup>lt;sup>2</sup> Department of Nursing Department, China-Japan Union Hospital of Jilin University, Changchun, Jilin,130033, China,

equipment, which is the three-level management responsibility system for nurses, nurses, and roving nurses; new equipment should be installed and wet cleaned before entering the operating room to reduce dust ingress; The operation procedure of the equipment is strictly required to operate according to the regulations and strengthen supervision; establish a registration form of use, including date, patient name, name of surgery, surgeon, equipment performance, number of attachments and conditions, and must be signed by the roving nurse; On the day of surgery, the roving nurse must carefully check the quantity and performance of the equipment needed for the operation on the day to ensure the operation needs, improve the quality of the operation and provide quality nursing services. The nurses regularly check the performance of the equipment and promptly report to the nurse. Long feedback; Under the premise of strengthening the management of equipment and equipment, we must also promote resource sharing, thereby improving the utilization rate of instruments and equipment. Establishment of relevant rules and regulations In the process of standardized management of clean operating rooms, the establishment of rules and regulations is a very important content and a key joint. First of all, it is necessary to inquire and learn relevant materials, and then based on the actual situation of the hospital, establish job responsibilities, work processes and work systems for various tasks. It mainly includes special infection surgical treatment process, postoperative operating room treatment process, article and equipment handling process, surgical patient pick-up process, clean and hygienic system, clean operating room dressing process, item management system, large-scale instrument and equipment management system, pre-operative visit system, nursing quality management system, disinfection and isolation system, infection management control system, visit system, general management system for clean surgery. In the process of its specific implementation, if problems are found, it is necessary to make scientific and reasonable adjustments in a timely manner to effectively maintain dynamic stability.

## 3. Operating room layout

The operating bed is placed in the center of the operating room purification area. Sometimes the position of the operating bed is moved due to the need of the surgical position, so that the reasonable and smooth operation space is convenient for the operation of the surgeon and the nurse, but it is necessary to ensure that the surgical area and the instrument Table are completely in the purification zone.

Placement of items in the operating room To thoroughly inspect the relevant items in the operating room, based on the frequency and use of the relevant items, fixedly place them, and carefully place the items that are commonly used every day and the items that must be retained. The use of stratification, sorting and positioning to store a certain amount of supplies in the closet is convenient to use, saves space, and the rest of the items are returned to the warehouse. The items in the cabinet are regularly added and arranged, and the packaging and disinfection date are checked to ensure that the operating room is ready for use at any time.

The operation of the operating room equipment and equipment according to the laminar flow purification level and the characteristics of the specialist, the need to relatively fixed operating room, the specialist equipment is relatively fixed in the specialist operating room, try to avoid unnecessary movement, in order to prevent unnecessary damage. Commonly used instruments such as anesthesia machine, monitor, electric knife, energy column, etc. are generally placed in the peripheral area on the side of the operating bed, try to avoid the return air outlet, so as not to affect the air return. Items entering the operating room should be removed from the outer packaging to maximize Eliminate or avoid pathogens brought in by equipment, establish a good air environment, protect surgery, and effectively prevent and control infection. In each operating room, a floor plan is to be placed. The main content of the plan is the specific placement of the relevant equipment and items. In order to ensure that the items are placed neatly, the layout is completed according to the requirements in the plan, reducing the product. gray. The instruments that are not commonly used in the operation are fixedly placed between the instruments. After the operation is finished, the positioning is returned to the original position and placed neatly.

### 4. Management of workers and workers

First of all, it is necessary to carry out pre-job training, introduce the division of the operating room and the specific conditions of each sub-division to the workers and staff, and explain the relevant cleaning standards. The main training content is the basic disinfection and isolation knowledge. Secondly, it is necessary to train the workers in the sanitation work. Normally, the dust concentration in the air represents the cleanliness of the air. The higher the dust concentration in the air, the lower the cleanliness of the air. The lower the dust concentration in the air, the higher the cleanliness of the air. Compared with the ordinary operating room, the laminar flow purification operating room has higher hygiene and cleaning requirements, and the air inlet and outlet are strictly cleaned, and the non-purifying area and the purifying area are divided, and the cleaning work of different operating rooms cannot be mixed. After each operation, the ground should be wiped once, the auxiliary room and the walkway should be mopped 4 times a day, the walls and walkways should be cleaned and wiped every day, and then the patient push cart should be used every day with disinfectant. Wipe once. Finally, the workers should be instructed to learn the relevant infection control knowledge. Regularly organize the workers and workers to learn about infection control and aseptic operation, so that they can actively participate in hospital infection management, establish infection management awareness, and ensure that they can play an important role in clean operating room management., in turn, to provide a clean therapeutic environment, such as 0. 5 h Turn off the air conditioning system, etc.

### 5. Formulate various management rules and regulations

The clean operating room should be unified with various signs and signs to make rational use of the space in the clean operating room. According to the standard, firstly strictly manage the partitions and post various logos, such as the logo of the shoe closet, the logo of the sterile private room, and the classification of the drug, etc., to lay a good foundation for the standard use management.

Strict zoning management, demarcation of restricted areas, semi-restricted areas, non-restricted areas, clear divisions and signs; people flow, logistics channels, clean and dirty channels in line with functional processes, and strengthen the protection of clean areas. Strictly regulate the flow of personnel entering and leaving the operating room and the number of people entering and exiting, and the flow of people flow. Medical staff, patients, cleansing items, and dirt must be in strict accordance with procedures and procedures. Strictly control the number of personnel entering the operating room. The surgical personnel are controlled according to the list provided by the surgical notice. Non-surgical personnel entering the observation operation or visiting must be approved by the competent department and control the number of people. The clean operating room laminar flow filtration technology uses a scientifically designed primary, medium and high-efficiency filtration multi-stage air filtration system to maximize the removal of particles and microorganisms suspended in the air, and effectively prevent outdoor particles from entering the room and creating a clean environment. Effective means. In the process of using the clean system, it is necessary to strictly implement various management regulations, do daily hygiene and prevent secondary pollution. Strictly manage the number of personnel entering and leaving, controlling the number of personnel, strictly manage the opening of the surgical door and the isolation door, reasonably adjust the indoor micro-climate, maintain the temperature and humidity, light, wind speed, noise and various particles to reach normal values.

The clean surgery department only has excellent design and advanced equipment. It must also have strict management to ensure its clean effect and keep the system in good working condition. The first is strict management and use of various channels. Medical personnel, patients, clean items, and dirt must be strictly in accordance with procedures and procedures. The medical staff enters the clean area after the shoes are changed by the special passage. Patients should be cleaned, skinned, and dressed in the ward, and then enter the clean area with special carts and dedicated access. The sterile articles enter the sterile goods warehouse through the clean passage, and the disposable

sterilization articles are removed from the outer packaging and enter the clean area through the buffer zone. The used equipment is directly placed in a special elevator through the back hall and transported to the supply room for centralized disinfection, cleaning, packing and sterilization. The operating room door and the partition isolation door must be kept in a normally closed state. It is strictly forbidden to open the door. The automatic door should be inductively used when the power is turned on. It is forbidden to forcibly control the operation of the door by hand.

#### 6. Conclusion

The clean operating room is the key department of the hospital's overall management. Managers must change their concepts, learn building codes, master the basic knowledge and principles of clean operating rooms, and formulate specific measures for standardized management to form an institutionalized, scientific, standardized, and humanized management. mode. Safe use and management of clean operating rooms is an important factor in improving the operating room utilization rate and turnover rate. It is an important link to achieve safety management and ensure the survival and development of hospitals.

#### References

- [1] Wang Fenghua. Logistic regression analysis of dynamic changes of air quality and its influencing factors during clean operating room operation [J]. Chinese Journal of Health Statistics, 2015(5): 839-840.
- [2] Wu Guiping, Zhang Donghong. Management Method of Clean Operating Room [J]. Chinese Journal of Disinfection, 2012, 29(9): 812-813.
- [3] Liang Yufang. Standardized Process Management of Surgical Instruments [J]. Modern Hospital, 2008, 8(4): 124-125.
- [4] NI Le-dan, ZHENG Shu-zhi, LI Xiao-xi, et al. Observation on the effect of comprehensive measures on clean surface of clean operating room [J]. Chinese Journal of Disinfection, 2010, 27(3): 354-355.
- [5] Zhu Guifang. Use and standardized management of clean operating room [J]. Chinese Community Medicine (Medical), 2010, 12(30): 238-238.
- [6] Chen Dan. Application of PDCA in Standardized Management of Operating Room Workflow [J]. Chinese Medical Frontiers, 2011, 06(9): 97-99.