

Thinking and Discussion on the Clinical Teaching Mode of Standardized Resident Trainees

Guohua Wei, Juan Wang*

Department of Anesthesiology, the First Affiliated Hospital of Nanjing Medical University, Nanjing, Jiangsu, China, 210029

**Corresponding author*

Abstract: *The standardized training of residents in anesthesia is an important part of the physician training system and an important way to improve the technical level of anesthesia. With the gradual implementation of the training system, the number of students is increasing. However, due to the particularity of the training system, most of the students are in the re-education stage of medical students after graduation, and their clinical practice ability needs to be improved. Therefore, we should not only pay attention to the teaching of theoretical knowledge, but also pay attention to the cultivation of clinical skills and practical operation ability. This paper mainly analyzes the problems existing in the standardized training of anesthesiology residents in China, and discusses the clinical teaching mode suitable for the standardized training of anesthesiology residents in combination with the characteristics of anesthesia and their own experience, in order to provide reference for the better training work.*

Keywords: *Anesthesia; residents; standardized training*

1. Introduction

The clinical work of anesthesia specialty has the characteristics of strong professionalism, high medical risk, and complex doctor-patient relationship, so the training should be carried out in a targeted way. The particularity of anesthesia specialty is mainly reflected in the following aspects: ① wide scope of clinical work: anesthesia is a clinical discipline, covering surgical treatment, non-surgical treatment and drug treatment and other aspects. Patients need to apply a variety of drugs for preoperative and postoperative anesthesia, and anesthesia management during surgery involves multiple disciplines, and the risk of anesthesia should be evaluated according to the patient's condition before surgery and appropriate anesthesia methods should be selected. After the completion of surgery, patients will have a variety of adverse reactions, such as nausea, vomiting, agitation, etc., if not detected and treated in time, it may lead to serious complications and even death. Therefore, it is necessary to develop students' clinical competence in different aspects. ② Medical risk: during the operation, patients will have multiple complications or accidents, if not handled in time may lead to serious consequences. And, patients may also have arrhythmia, shock and other conditions during anesthesia, which may lead to the patient's life danger. ③ The doctor-patient relationship is complex: At present, the doctor-patient relationship tension in China has become one of the hot issues in society. Anesthesiologists not only need to face various inquiries and requirements from patients and their families, but also solve various problems encountered by patients in time. Therefore, in the process of clinical teaching, they should not only pay attention to the teaching of theoretical knowledge, but also pay attention to the cultivation of problem-solving ability. ④ Technical difficulty: anesthesia major includes many complex technical operations, if they are not skilled in the relevant technology, medical accidents will happen. In addition, in the process of clinical teaching, we may also encounter various difficult diseases or special conditions, such as hypertension after heart surgery, coma after brain trauma, how to rescue and other problems. Therefore, it is necessary to cultivate students' ability to think independently, problem solving and team spirit. According to the data, the standardized training of resident doctors is an important part of the national medical talent training system. In addition, in the standardized training of residents, the teaching quality of anesthesia residents directly affects the training effect and quality of curing patients^[1]. To this end, this paper makes the following thinking and discussion on the clinical teaching mode of anesthesiology resident trainees.

2. The Clinical Teaching Status of Anesthesia Specialty

At present, the training of anesthesia in major hospitals in China is not smooth. Many hospitals lack the capital of teachers, no fixed teachers, and the training of professional students lack a certain system. In addition, most of the students have not conducted relevant training before entering the clinical practice, and have no corresponding cognition of professional theoretical knowledge, operational skills, clinical thinking, etc., leading to the disconnection between theoretical knowledge and practical operation. Due to the lack of systematic and continuous teaching mode, the students may appear in the clinical practice: ①the student is not skilled in the professional knowledge of anesthesia;②the student has poor clinical thinking ability and poor clinical operation skills; ③the student lacks the ability to solve problems in practical work;④the student cannot quickly adapt to the new working environment. All these put forward higher requirements for the training students, need anesthesia professional teachers to pay more attention in the process of teaching. First, due to the relatively weak professional knowledge of the clinical practice, the theoretical knowledge and clinical skills can not reach the high standard, resulting in great difficulty for teachers in the process of teaching. Second, the specialty of anesthesia is a special discipline in clinical medicine. The discipline of anesthesia started late in China and developed rapidly. But the anesthesia specialty was still relatively short of professional knowledge. Third, because the regulation and training system has just been implemented soon, there is no mature experience and fixed model for reference. Therefore, many hospitals have not formed an effective teaching mode suitable for their own situation, suitable for the characteristics of planned training students. These problems are the main reasons for the problems and difficulties in the process of clinical practice. For the anesthesia major, because of its large and complex, fine, rigorous and difficult characteristics, its professional theoretical knowledge and clinical skills have higher requirements compared with other disciplines. Therefore, after entering the clinical practice, the training trainee should carry out targeted theoretical knowledge and clinical skills operation training^[2].

3. Thinking and Discussion on the Clinical Teaching Mode

The establishment of the regular training system is to cultivate more excellent clinicians, cultivate their ability to think independently and solve problems, and better serve patients. Therefore, in the process of clinical teaching, we should focus on cultivating its independent thinking ability and problem-solving ability. For the anesthesia major, it itself has a strong practicality and practicality. Before the anesthesia operation, the anesthesiologist needs to master the appropriate methods and routine monitoring methods of the equipment and select the appropriate anesthesia method for the patient; During the anesthesia operation, the teachers and students closely observe the vital signs and conduct skilled operation in intraoperative monitoring and postoperative monitoring; After the anesthesia operation, comprehensive observation and timely treatment. Therefore, in the process of routine training, it is necessary not only to cultivate students' proficiency in various anesthesia operations, but also to cultivate their adaptability to various anesthesia equipment and possible unexpected situations. In the process of teaching, teachers should provide more practical opportunities and exploration space for students to train the rules, and constantly summarize experience, so that they can master clinical work skills and knowledge. At the same time, teachers should have a strong sense of responsibility and patience, and constantly encourage students to create innovative thinking and active learning.

3.1. Establish and Improve the Clinical Practice Management System of Trainees

Teachers should have a basic understanding of the training system and be familiar with the training system before entering the clinical practice. According to relevant regulations, hospitals should establish a set of perfect management system, including: ① establishing the selection and management mechanism of hospital trainees; ② strict access standards, formulate strict training programs and assessment standards; ③ setting up two-way selection mechanism between teachers and students; ④ building communication and feedback mechanism between teachers and students during training; ⑤ developing clinical practice assessment plan. In the clinical practice management of the training in the department of anesthesiology, the examination should be strictly assessed according to the regulations of the hospital. The hospital should establish and improve the corresponding reward and punishment system, including: formulate the department assessment system to commend and reward outstanding not seriously completing the internship task, incorrect attitude,

loose discipline students.

3.2. Combination of old and new

The combination of the old and the new, that is, in the process of standardized training of resident physicians, pay attention to the mutual communication between the training doctors and the teaching doctors, continuously improve the clinical experience and teaching skills of the teaching teachers through the way of "passing on help and leading", and gradually form a virtuous circle in the process of standardized training of resident physicians. On the one hand, the teaching doctors continuously help the training doctors to be familiar with the basic workflow and various operations of anesthesiology during the teaching process. On the other hand, regular training doctors constantly ask the instructors about clinical problems during the learning process, which helps to improve their clinical thinking and ability. Anesthesiology is a rapidly developing discipline with rapid knowledge updating. Only by continuously promoting the combination of new and old teaching methods of "passing on help and leading" can the teaching effect and quality be guaranteed. At the same time, attention should also be paid to the process of combining the old and the new: first, we should not overemphasize the "passing on and helping" model of combining the old and the new, but should spend more time on young doctors; Second, young doctors should participate in the daily work of the department under the guidance of the instructor, and continuously improve their professional skills and clinical thinking ability in practice. Pay Attention to Clinical practice skills training, Improve the Working Ability of the trainees.

3.3. Pay attention to the combination of professional theoretical knowledge and practical work

In order to improve the professional theoretical knowledge of the trainees, we focus on guiding the trainees to apply the professional knowledge they have learned to practical work during the teaching process, which can not only help the trainees better grasp the professional knowledge, but also improve the clinical work ability of the trainees. During the teaching rounds, the instructors will explain in detail the common problems in anesthesia clinical work, guide the students to find problems, and organize and carry out teaching rounds in various forms such as case discussion and simulation teaching. The instructor answers questions for the students based on the problems encountered by the students in the actual work, and helps the students transform their professional knowledge into practical work ability. At the same time, when teaching rounds, teachers should also pay attention to cultivating students' clinical thinking ability. Teaching teachers can increase the clinical thinking ability of students by inviting experts in related fields to give lectures and carry out special lectures. In this way, students not only enhance their professional theoretical knowledge, but also enable them to master how to apply the acquired professional knowledge to practical work. Through these methods, the comprehensive quality and clinical work ability of the trainees can be effectively improved.

3.4. Pay attention to the cultivation of clinical thinking and improve the comprehensive ability of regular trainees

In terms of clinical thinking, students majoring in anesthesia generally have many problems, including: (1) insufficient understanding and attention to possible complications, adverse reactions, and postoperative recovery processes of patients during surgery; (2) Unclear and idealistic positioning of their own roles; (3) The student cannot skillfully use the theoretical knowledge learned to analyze the patient's condition, and think simply and in a single way when dealing with problems. In order to solve these problems, the first thing to do is to change the thinking mode of Guan Pei Sheng and establish correct clinical thinking. Clinical thinking includes: (1) Patient-centered and paying attention to the patient's condition changes; (2) Combination of diagnostic thinking and diagnostic process; (3) Analytical thinking ability; (4) Instructors attach importance to clinical evidence; (5) Instructor focus on communication skills; (6) All of them attach importance to communication with patients' families and related personnel. Through the above training, Norm Trainees can establish correct clinical thinking to better serve patients. In addition, in order to improve the attention of trainees to clinical thinking training, they can also conduct teaching modes such as simulated surgery, case discussion, and case analysis through various ways to familiarize trainees with clinical workflow and work details. 4. Summary and Outlook

Anesthesia is a relatively young discipline in clinical medicine, and the clinical knowledge is updated quickly, and the implementation time of regular training system is not enough, and the attention to regular training is still insufficient. However, with the gradual improvement of China's

regular training system, anesthesia specialty will play an increasingly important role in medical treatment. In the new situation, we should continue to explore and try the clinical teaching mode suitable for the development of anesthesia major, help the students to better complete the learning tasks, and cultivate their professional skills and clinical thinking ability^[6]. At the same time, we should also realize that there are still many problems and deficiencies in the clinical teaching work of anesthesia specialty, such as the lack of responsibility of teaching teachers, the single teaching method, and the disconnection between theory and practice. Therefore, we should strengthen the construction of teachers, optimize teaching methods, and pay attention to the training of clinical skills and clinical thinking ability, in order to better serve the development of medical career.

3.5. Pay attention to the cultivation of clinical thinking and improve the comprehensive ability of regular trainees

In the clinical teaching of anesthesia major, the teaching teacher should pay attention to the training of clinical practical skills for the trainees. The instructor should guide the trainees in their practical work, so that they can understand the content and operation process of their own operations, so as to deepen their understanding of theoretical knowledge. At the same time, the instructor should also guide the trainees to communicate and communicate effectively, and cultivate a good doctor-patient relationship between the trainees and patients, family members and colleagues. For clinical practice skills training, different methods should be used according to different training purposes. For newly appointed trainees, clinical practice skills training should be provided through hands-on teaching and demonstration; For trainees who already have certain clinical work experience, they can be taught through case discussion, simulator demonstration, and organizing students to observe and improve the clinical practice skills of trainees. Teaching teachers should also strengthen communication and exchanges with trainees, solve their problems and difficulties in the process of clinical internship in a timely manner, and enable them to master the necessary clinical practice skills in the shortest possible time.

3.6. Teaching teachers should pay attention to cultivating independent thinking ability and problem-solving ability of regular trainees

In the process of clinical teaching, the teaching teacher should constantly summarize experience, guide students to take the initiative to learn, and continuously cultivate students' independent thinking ability and problem-solving ability. First of all, teaching teachers should pay attention to the combination of theoretical knowledge and practical work when conducting clinical teaching, so that students can apply what they have learned. In the process of teaching, the teaching teacher should continuously guide and help the students' clinical work, help them be familiar with the use of various equipment and routine monitoring methods, and choose appropriate anesthesia methods and programs according to the specific conditions of specific patients. At the same time, students should be encouraged to experience and learn the operation of various anesthesia equipment in the teaching process, and try to operate independently; At the same time, students should be encouraged to summarize and think about clinical work, and constantly find problems and propose solutions. Secondly, in the teaching process, attention should be paid to cultivating students' innovative thinking and problem-solving skills. Instructors should constantly guide students to think positively and propose solutions when teaching, and encourage them to experiment boldly. At the same time, teaching teachers should also strengthen the cultivation and exercise of their independent thinking ability in the daily teaching process. In the process of daily teaching of trainees, the teaching teacher should guide them to analyze and solve the problems encountered in clinical work, and encourage students to think independently. Finally, the teaching teacher should also continuously strengthen the communication and exchange with the regular training students in the daily teaching process. Teaching teachers should fully understand the professional characteristics, thinking mode, personality characteristics and other conditions of students, and formulate appropriate teaching plans and teaching objectives according to the actual situation of trainees; At the same time, attention should be paid to cultivating independent thinking ability and problem-solving ability of trainees, and constantly stimulating their interest and motivation in learning. At the same time, attention should be paid to strengthening the cultivation and exercise of their clinical skills and clinical knowledge.

3.7. Pay attention to the cultivation of doctor-patient communication skills of regular trainees

Doctor-patient communication is an important content in the standardized training process of

resident physicians, and it is also an important indicator in the standardized training assessment of resident physicians. Strengthening the cultivation of doctor-patient communication skills is conducive to improving the communication ability of residents, and is conducive to improving the professional skills and professional qualities of residents. In the daily teaching process, residents can cultivate clinical thinking and doctor-patient communication skills through video teaching, case discussion, simulator drills, etc. In the process of diagnosis and treatment, anesthesiology residents should fully consider the actual situation and special needs of patients, fully communicate with patients, and make communication records. At the same time, it is also necessary to pay attention to the protection of patient privacy. For the patient's private parts can not be exposed at will, attention should be paid to protecting the patient's privacy during surgical operations. In addition, it can also improve the communication skills of residents by holding special lectures and watching videos.

3.8. Establish a strict assessment system

During the training period, trainees are required to complete 3 months of clinical practice, skill operation assessment and theoretical examination. The skill operation assessment mainly includes theoretical written examination, surgical anesthesia, critical anesthesia, critical disease diagnosis and treatment, pain diagnosis and treatment, etc., focusing on surgical anesthesia and critical disease diagnosis and treatment. In the assessment, anesthesiologists play an important role, not only responsible for the daily work of anesthesiology, but also to give patients necessary preoperative preparation and intraoperative anesthesia treatment before surgery, management of postoperative pain and treatment of postoperative complications, etc. Therefore, in the assessment process, it is necessary to establish a strict assessment system, and the results of theoretical written examination, surgical anesthesia skills and critical anesthesia skills are included in the total scores. The theoretical examination is conducted in the form of a written examination, mainly covering the basic knowledge of anesthesia and anesthesiology. The operation of surgical anesthesia skills is mainly based on practical operations, including general anesthesia induction and maintenance, endotracheal intubation, ECG monitoring, tracheostomy and other operations. Theoretical examinations and skill assessments are based on a 100-point system. The final score consists of theoretical exam results and clinical practice skills operation scores.

3.9. Teaching teachers should focus on strengthening communication skills and improving

In the process of teaching, the teaching teacher should not only continue to learn new knowledge, but also continuously improve his communication skills. In clinical work, the teaching teacher should fully communicate with the patient and the teaching student, timely understand the patient's situation and effectively explain it; When performing surgery on patients, the instructor should select appropriate anesthesia methods and programs based on understanding the patient's condition, combined with anesthesia and surgery related knowledge; When explaining the possible situations that may occur during the operation, attention should be paid to students' emotional changes and psychological reactions; When giving anesthesia to patients, the appropriate depth of anesthesia should be selected according to the surgical site; When monitoring patients after surgery, the instructor should pay attention to the student's reaction. At the same time, the teaching teacher should actively understand the personality characteristics and learning situation of the students, and give corresponding guidance according to the different personality characteristics and learning conditions of the students, so as to better improve the work ability of the trainees [2-5].

4. Summary and outlook

Standardized training of resident physicians is an inevitable trend in the development of medical education in China, which is of great significance to improve the level of clinical medical education in China. Anesthesiology is a relatively young discipline in clinical medicine, and the update of clinical knowledge is relatively fast, while the implementation time of the regulatory training system is still short, and the attention to regulatory training is still insufficient. However, with the gradual improvement of China's regulatory training system, anesthesia will play an increasingly important role in medical treatment. Under the new situation, we should continue to explore and try clinical teaching models suitable for the development needs of anesthesia profession to help trainees better complete their learning tasks and cultivate their professional skills and clinical thinking ability [6]. At the same time, we should also realize that there are still many problems and shortcomings in the clinical teaching

work of anesthesia professional trainees, such as the weak sense of responsibility of the teaching teachers, the single teaching method, and the disconnect between theory and practice. The purpose of standardized residency training is to cultivate qualified application-oriented talents for medical and health undertakings, so clinical work should be the main focus in standardized residency training to strengthen students' clinical practice ability. In actual work, the standardized training time of residents is generally short, so attention should be paid to the training process, strictly requiring every step of the student's operation, and also paying attention to the teaching link. Therefore, the teaching teacher should choose an old doctor with rich clinical experience, high theoretical level and rich teaching experience as the teaching teacher. Teaching teachers should strengthen communication and communication with students, carefully observe problems in daily work and give guidance and correction in time. Teaching teachers can also regularly share their problems or experiences encountered in the teaching process with everyone, and at the same time continuously strengthen the construction of teachers, optimize teaching methods, and pay attention to the training of clinical skills and the cultivation of clinical thinking ability to improve everyone's attention and enthusiasm for teaching work, so that the teaching work is smoother. In addition, focusing on the diversification of teaching modes, in the standardized training and teaching of anesthesia residents, in addition to conventional theoretical teaching, surgical teaching, and surgical operation, different forms of teaching methods can be implemented for trainees according to the training goals. For example, physicians give lectures on anesthesia specialty knowledge to regular trainees to help them establish a knowledge system of anesthesia specialty; Carry out clinical skills training such as simulators, case discussion, and case analysis for trainees; Provide training to trainees in daily medical safety education, surgical patient care, doctor-patient communication skills, etc. On this basis, the combination of clinical skills and theory guides the trainees to train anesthesia scientific research thinking, so as to improve their scientific research capabilities. In addition, different forms of teaching methods can be adopted according to different training goals and requirements. For example, technology-centered pedagogy, case-centered pedagogy and problem-centered pedagogy are carried out for trainees. On this basis, it can also be combined with the actual situation of the hospital to appropriately increase some training in clinical research thinking and clinical skill operation. In short, in the process of teaching, physicians pay attention to the integration of theory with practice, stimulate students' interest in learning, and pay attention to cultivating students' problem-solving ability. In order to train more outstanding young doctors to better serve the development of medical career.

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