

## Development and Implementation of a Preceptorship Model for Oral Specialty Nurses in Clinical Teaching Bases (Postprint)

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### Abstract

With the goal of clinical teaching for specialized nurses, a three-level teaching management framework comprising the Nursing Department—Head of the Stomatology Clinical Teaching Base—Teaching Group Instructors was established during the teaching process. A three-level teaching plan integrating training syllabus requirements—student needs—base characteristics was formulated. A “one-on-one” mentorship system for full-time clinical teaching was implemented, and diversified teaching methods including centralized theoretical instruction, surgical observation, scenario simulation teaching, and specialized operation simulation exercises were employed to execute the plan, thereby providing clinical teaching for specialized stomatology nurses and assisting students in enhancing their professional competencies and comprehensive qualities. In accordance with the requirements of the Chinese Nursing Association, clinical operation skill assessments and mini-lecture evaluations were conducted to facilitate students’ mastery of stomatology-related knowledge while concurrently improving their comprehensive capabilities in clinical instruction, research, and other domains. Since 2020, our hospital has admitted two cohorts totaling over 20 students, all of whom successfully completed the program with a 100% pass rate, and student satisfaction with our hospital’s teaching program reached 100.00%.

### Full Text

#### Establishment and Practice of a Teaching Mode in the Clinical Teaching Base for Dental Specialist Nurses

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## Abstract

With the goal of clinical teaching for specialist nurses, we constructed a three-level teaching management framework comprising the Nursing Department—Head of the Clinical Teaching Base for Dentistry—Teaching Group Instructors during the teaching process. We developed a three-level teaching plan integrating training syllabus requirements, student needs, and base characteristics, and implemented a “one-to-one” mentorship system for full-time clinical teaching. Diversified teaching methods were employed to execute the plan, including centralized theoretical lectures, surgical observation, situational simulation teaching, and specialized operation simulation exercises, providing clinical instruction for dental specialist nurses and helping trainees enhance their professional skills and comprehensive qualities. According to the requirements of the Chinese Nursing Association, clinical operation skills assessments and mini-lecture evaluations were conducted to enable trainees to better master dental-related knowledge while simultaneously improving their comprehensive abilities in clinical teaching and scientific research. Since [year], our hospital has received two cohorts totaling more than [number] trainees, all of whom successfully completed the program with a [percentage]% pass rate. Trainee satisfaction with our hospital’s teaching reached [percentage]%.

**Keywords:** dental specialist nurse; clinical teaching base; teaching mode; nursing education

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## Introduction

Specialist nurses represent a crucial training direction and model for nursing talent by the Chinese Nursing Association, gaining increasing recognition from hospitals and nursing professionals with rising demand year by year. Specialist nurses or Clinical Nurse Specialists (CNS) refer to registered nurses working in various specialties with corresponding specialty certification, representing advanced clinical nursing practitioners formed and developed through the process of nursing specialization. The *National Nursing Career Development Plan* clearly proposes intensifying specialist nurse training to improve specialized nursing standards. As one of the first dental specialist nurse training bases accredited by the Chinese Nursing Association, our hospital’s Department of Stomatology began receiving specialist nurse trainees in [year], totaling [number] participants from across the country over two years, including [number] nursing backbone personnel. All trainees successfully completed their internships and graduated, obtaining the Chinese Nursing Association Dental Specialist Nurse Training Certificate. In the same year, our base was awarded the title of “Excellent Specialist Nurse Training Base.” Based on the requirements of the Chinese Nursing Association and combining the characteristics of dental nursing, we have developed a comprehensive teaching model during the clinical teaching process for specialist nurses. Through practice, we have gained valuable experience, which we now

report as follows.

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## **1. Establishing a Clinical Teaching Group Under Nursing Department Leadership and Implementing a Three-Level Teaching Management Model**

According to Chinese Nursing Association requirements, we constructed a three-level teaching management framework comprising the Nursing Department—Head of the Clinical Teaching Base for Dentistry—Teaching Group Instructors. The Nursing Department provides overall management of dental specialist nurses, the clinical teaching group is responsible for developing teaching plans, selecting instructors, and guiding plan implementation, while instructors handle specific teaching and daily care for specialist nurses, with each level performing its distinct functions.

### **Assessing Trainee Baseline Conditions**

Dental clinical nursing work is highly specialized. The [number] trainees came from different hospitals ([number] from specialized hospitals, [number] from general hospitals), including [number] charge nurses and [number] with [X] years of work experience. The group included head nurses from general hospitals, nursing backbone personnel from specialized hospitals, and nurses from medical institutions, creating significant variation in learning needs. The teaching group communicated with each trainee individually in advance, established a WeChat communication group, and proactively understood their learning requirements. For trainees from other regions, we provided life guidance and assistance. Through this two-way interaction, we narrowed the distance with trainees, resolved their concerns, and enhanced their sense of belonging.

### **Developing a Three-Level Teaching Plan**

The teaching group conducted unified lesson preparation, established training objectives and content, and formulated a detailed three-level teaching plan. First, based on Chinese Nursing Association requirements and clinical training syllabus standards, we developed [content]. Second, according to actual trainee needs, we personalized clinical arrangements. Third, combining hospital and department characteristics, we arranged universal courses such as chairside emergency drills and laser therapy. Each trainee received a personalized learning schedule detailed down to each unit, completing internship content according to the plan. During the internship, we reasonably arranged for trainees to complete literature searches and courseware production, enriching learning content and expanding professional knowledge.

### **Instructor Qualification Requirements**

Instructors were recommended by departments, elected, and uniformly assessed and certified by the Nursing Department. Basic requirements for teaching instructors include: possessing clinical teaching qualifications; being a Chinese

Nursing Association Dental Specialist Nurse is preferred; having more than [X] years of dental nursing clinical experience; holding a bachelor's degree or higher and nurse practitioner or higher professional title; demonstrating strong work responsibility, rigor, solid professional theoretical knowledge, proficient clinical operation skills, and clinical teaching ability. Among our instructors: [number] hold master's degrees; [number] have [X] years of teaching experience; [number] are specialist nurses; [number] have [X] years of work experience.

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## 2. Innovating the Teaching Model Through “One-to-One” Mentorship and Full-Time Clinical Teaching

To better enhance training effectiveness, the teaching group adopted a “one-to-one” mentorship system with full-time teaching. The teaching team jointly determined mentor assignments, allocating [number] mentors based on trainee numbers, with [percentage]% being charge nurses and [percentage]% having [X] years or more of teaching experience. Mentors were responsible for trainees' entire learning and life management, guiding them in completing clinical practice manual records, operation skills assessment practice, and mini-lecture Power-Point production.

Each specialty group had [number] instructors responsible for guiding trainees to familiarize themselves with workflow, conducting basic operation demonstrations and training. Mentors and instructors maintained communication and feedback with trainees from different perspectives and aspects, truly achieving a student-centered approach. Trainees coming from different hospitals experienced psychological unfamiliarity and discomfort. Through multiple communication channels, we helped cultivate teacher-student relationships, giving trainees a sense of belonging. Full-process supervision and guidance helped trainees establish good learning habits.

The “one-to-one” mentorship system fully mobilized mentors' initiative and improved teaching quality. It also provided more time for clinical guidance and operation practice, helping trainees integrate more learning resources, achieve specialist nurse training objectives, and improve trainee satisfaction.

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## 3. Strictly Implementing Teaching Plans Through Diversified Teaching Methods

We employed diversified teaching methods, selecting appropriate approaches based on specific content, such as centralized lectures, clinical demonstrations, case observations, specialized operations, and situational simulation, to enhance trainee engagement.

### Centralized Theoretical Lectures

Using multimedia courseware and specialized equipment, we conducted centralized lectures highlighting departmental advantages. We arranged essential universal courses and practical operations, including nursing literature review writing techniques, dental medical photography, clinical case presentation and analysis, laser equipment operation and practice, instrument sharpening and practice. Lecturers were experienced clinicians and charge nurses. Weekly [X]-minute sessions employed multiple teaching methods including group discussion, hands-on operation, and post-class practice to mobilize trainee enthusiasm and facilitate the transition from learning to application.

### **Clinical Demonstrations and Case Observations**

Trainees already possessed strong nursing practice abilities, but given the specialization of dental nursing operations and materials, clinical work often employs four-handed operation with integrated medical-nursing collaboration, requiring nurses to understand doctors' operating habits and instrument placement in advance. For novice trainees, instructors conducted clinical demonstrations and explanations. By the third week, intermediate trainees practiced personally while instructors provided on-site guidance with "hands-off but eyes-on" supervision.

We selected typical cases for observation based on dental specialty characteristics, such as four-handed nursing cooperation in periodontal mucogingival surgery, porcelain veneer bonding technique, and resin infiltration technique. Instructors demonstrated operation skills and provided summaries, while physicians conducted extended explanations to comprehensively improve trainees' integrated abilities.

### **Situational Simulation Teaching**

Specialized operations constitute an important component of specialist nurse training. According to Chinese Nursing Association Dental Specialist Nurse training requirements, we provided practical instruction on four specialized techniques: rubber dam isolation, glass ionomer cement mixing for restorations, silicone impression material mixing, and four-handed operation. The teaching team combined assessment scoring criteria with intuitive demonstration exercises, with mentors providing targeted operation guidance and simulation practice.

Chairside emergency training: The timeliness and technical operation of emergency rescue determine success or failure in an instant. To develop trainees' emergency rescue and disposal capabilities, the teaching team arranged chairside emergency training. Through preparatory work including developing emergency teaching plans, writing simulated medical records, assigning roles, training standardized patients, and advance rehearsals with Nursing Department evaluation and guidance, trainees participated unprepared during actual diagnosis and treatment processes. Afterwards, head nurses explained emergency theoretical knowledge, and instructors with years of emergency clinical experience conducted on-site AED use demonstrations and guidance, combining theory with practice to help trainees improve multiple capabilities. Some trainees

reported that it was their first time using an AED and found it highly beneficial. Combining multiple teaching methods enriched trainees' theoretical understanding, enhanced clinical critical thinking, and helped improve personal capabilities from multiple perspectives.

### **Weekly Summaries and Symposia**

Trainees conducted weekly summaries of learning content while planning the following week's schedule. The teaching team reviewed these individually to understand needs and adjust plans dynamically. A mid-term symposium was held in the second week, where Nursing Department supervisors personally understood learning situations, identified and addressed work and life issues promptly. A final symposium at the end of the fourth week summarized assessment results, listened to trainee suggestions, and awarded specialist nurse certificates.

### **Mini-Lecture Guidance**

Teaching ability development is crucial for specialist nurse cultivation. The teaching team arranged [number] mini-lecture sessions, first explaining topic selection techniques and production methods, then conducting rehearsal presentations. Trainees selected topics based on their professional expertise and clinical practice, with the teaching team providing multiple rounds of individual guidance and revision.

### **Humanities Focus**

During the teaching period coinciding with Peking Union Medical College Hospital's centennial anniversary, the teaching team led tours of the hospital campus, café, and history museum, allowing trainees to experience the Peking Union atmosphere and integrate its distinctive characteristics.

Diversified training models represent a teaching approach emphasizing "methodological diversity." Our department achieved diversification in training content, process, and assessment, thereby improving specialist nurses' comprehensive qualities and clinical nursing capabilities, enhancing specialized nursing quality, and promoting discipline development. Post-training satisfaction surveys conducted anonymously via QR code showed [percentage]% satisfaction for two consecutive years.

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## **4. Assessment and Evaluation**

Assessment evaluates both trainees and the teaching team. Specialist nurse assessment items include clinical skills assessment and mini-lecture assessment.

### **Clinical Skills Assessment**

As the training direction of the Nursing Association, clinical operation skills require trainees to select any two from five skill operations for assessment: four-handed operation technique, rubber dam isolation technique, glass ionomer cement mixing technique, silicone impression material mixing technique, and alginate impression material mixing technique. Using simulation head models,

instructors simulated clinical operations while trainees drew lots for assessment order. Some items utilized real clinical environments with random cases. The teaching team scored assessments, with the average as the final score. In [year], trainees selected any two items based on their professional expertise, with results shown in Table . Four-handed operation runs throughout all nursing procedures and is particularly important for specialist nurses. Therefore, in [year], we made four-handed operation a mandatory assessment item, with results shown in Table .

#### **Mini-Lecture Assessment**

The teaching team conducted comprehensive scoring based on teaching content, organization, PowerPoint production technique, and appearance/etiquette according to scoring criteria, with the average as the final score. The highest average score was [X] points, the lowest was [X] points, representing an increase of [X] points from last year. The highest average score was [X] points, the lowest was [X] points, representing an increase of [X] points from last year.

Assessment helps trainees better master relevant knowledge and systematically understand dental specialty knowledge. Through mini-lecture presentations, trainees improved comprehensive abilities including clinical teaching. In final symposium summaries, trainees reported significant improvements in specialized theoretical knowledge and operational skills, acquisition of new dental technologies and therapies, appreciation for the teaching team's responsibility and professionalism, and enhanced abilities in clinical teaching techniques, scientific research writing, and literature review composition. Some trainees' review papers were revised and submitted for publication directly.

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## **5. Conclusion**

Teaching plan formulation and clinical teaching methodology constitute a crucial component of specialist nurse training quality. Through implementing practical teaching methods, we not only improved trainees' professional skill levels but also comprehensively enhanced their learning abilities in teaching and research. Clinical nursing specialty base training models have been implemented for over a decade with rich experience. Dental specialist nurse training is in its initial stage, with no prior experience for reference, requiring most bases to summarize while teaching. Our department will continue strengthening nursing teaching faculty construction, fully leveraging the role of the dental specialty base, continuously summarizing clinical teaching experience for specialist nurses, and contributing to dental nursing development. Through continuous accumulation and improvement of teaching experience, we will gradually establish a standardized, normalized, and homogenized training model to cultivate qualified dental specialist nurses meeting contemporary development requirements.

**Conflict of Interest Statement:** The authors declare no conflict of interest.

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*Note: Figure translations are in progress. See original paper for figures.*

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