ENDODONTICS
Residency Training Programme
leading to the degree of
Master of Dental Surgery (MDS)
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1 Teaching Staff

**Programme Director:** Assoc Prof Victoria Yu  
BDS, MSc (London)

**Programme Associate Director:** Dr Lui Jeen Nee  
BDS, MDS, MRD (Edinburgh, UK), FAMS

**Faculty of Dentistry**

Assoc Prof Victoria Yu  
Cl A/P Patrick Tseng  
Dr Terence Lee  
Dr Liu Hao Hsing  
Dr Benjamin Long  
Dr Timothy Sim  
Dr Kenneth Low  
Dr Benny Goh  
Dr Lee Chee Wee

**National Dental Centre**

Cl A/P Chen Nah Nah  
Dr Lim Sor Kheng  
Dr Lui Jeen Nee  
Dr Tay Li Chye

**Committee for Endodontics**

Assoc Prof Victoria Yu (Chairperson)  
Dr Lui Jeen Nee  
Cl A/P Chen Nah Nah  
Cl A/P Patrick Tseng  
Dr Liu Hao Hsing  
Dr Terence Lee
2 Introduction

Welcome! The Endodontic Residency Training Program is a 3-year full-time programme designed to follow the ADA Accreditation Standards for advanced training in Endodontics. The training leads to the degree of Master of Dental Surgery (Endodontics). The goal of the training program is to prepare graduates to be proficient endodontic practitioners and competent academics with clinical acumen.

OBJECTIVES

At the end of the educational training, graduates should possess:

- an in-depth biomedical knowledge and a good foundation relevant to the art and science of Dentistry and Endodontics.
- a sound academic and clinical understanding of physiology and pathology of pulp, periradicular and surrounding tissues so as to achieve advanced diagnostic and clinical skills required of a specialist in endodontics.
- the ability to effectively integrate and interact with other specialists in the provision of patient care requiring differential diagnosis and/or multidisciplinary management.
- an understanding of research methodology and skills to conduct basic research.
- some experience in teaching.
- skills for independent life-long learning including literature critique and research evaluation.

VENUES FOR CLINICAL TRAINING

During the three-year programme, the resident will be trained at two institutions:

a) Faculty of Dentistry, National University of Singapore
b) National Dental Centre, Singapore
3 Course Content

1. Basic Medical Sciences Course

In line with the current standards for advanced specialty education programme internationally, the Endodontic Residency Training Programme includes a course in basic medical sciences to provide a strong scientific foundation for the diagnosis and treatment of endodontic pathology, and for research.

2. Didactic Courses in Endodontics

Clinical training is conducted concurrently with instructions in the principles of endodontics. Seminars, lectures, literature reviews, diagnostic and treatment planning sessions are regular features in the programme, as is exposure to undergraduate teaching.

3. Pre-clinical Technique Courses

Technique courses in surgical and non-surgical endodontics are designed to prepare the first and second year residents for the relevant clinical experience.

4. Clinical Training

The resident will be trained to diagnose, treat and manage patients with endodontic needs of varying degrees of complexity. These include endodontics with complex root and root canal morphology, management of procedural errors, endodontic retreatment, endodontic emergencies, endodontics in children, nonsurgical microendodontics, endodontic micro-surgery, treatment of traumatic injuries and bleaching as well as management of medically compromised patients. The resident will also be exposed to multidisciplinary care and through clinical management seminars learn to integrate and interact with residents from the disciplines of Periodontics, Prosthodontics and Oral and Maxillofacial Surgery.

5. Treatment Conference

The resident will be trained to develop a biologically sound philosophy and rationale for Endodontic Therapy through critical review of treatment plans.

6. Research Methodology

This course covers principles of biostatistics, research design and scientific writing, which provides the foundation and equips the resident for research and critical review of the literature.

7. Research
The resident will complete a research project and defend the thesis thereof, as part of the fulfillment of the requirements for the MDS degree in Endodontics. Publication of the work in peer-reviewed journals is encouraged. The resident should also present his/her research findings or conduct table-clinics at scientific meetings in Singapore and overseas.

**Year 1:**
The resident will identify the topic of investigation in consultation with the Programme Director and review the literature. This should be presented to the Programme Director. The Research Committee should be formed by April in Year 1, before the Year 1 examinations.

**Year 2:**
The resident will submit a research proposal to the Committee and should make as much progress in his/her research project as time allows, preferably completing it by the end of Year 2. A progress report is to be presented to the Committee before the Year 2 examinations.

**Year 3:**
The resident will complete the project, write and defend the thesis three to six months before the Final examination. At the Final examination, the resident will make a short presentation of his/her research.

**8. Teaching**

The resident will be involved in undergraduate teaching.

**9. Attachment at Overseas Institutions**

In order to increase educational and learning experiences, the resident may be given the opportunity for a 3-4 week attachment at reputable overseas institutions using own grants sought for airfare, accommodation and other expenses. This will likely be scheduled during Year 2. The attending resident may follow the prevailing timetable at the attached institutions and attend seminars, literature reviews, lectures and clinics etc. He/she is encouraged to network and be actively engaged in discussions.

**ANNUAL ASSESSMENT**

The resident will be assessed annually through:
1) written paper at year-end examinations for years 1 & 2
2) presentations at the treatment conference and literature review/seminar
3) term papers where applicable
4) continual assessments, including clinical performance
A candidate will only be allowed to proceed to the next year subject to satisfactory performance.
4 Examinations

AWARD OF MDS (ENDODONTICS)
The resident who has completed the following to the satisfaction of his/her supervisor will be eligible to sit for the Final MDS Examinations:

1) Completion of a satisfactory number of root canal treatment cases that includes a wide variety of endodontic problems including apical surgeries/apicoectomies.
2) Satisfactory performance at all continual assessments including year-end examinations.
3) Completion of research work and thesis.

The degree of Master of Dental Surgery in Endodontics will be awarded to the resident candidate upon successful completion of the Final MDS Examinations and thesis defense.

Candidates who have performed exceptionally well throughout the Residency Programme and at the Final MDS Examination are eligible for the Society of Endodontists Singapore Medal or Book Prize.
5 Course Modules

- Basic Medical Science Course
- Biostatistics & Research Design
- Endodontic Techniques Courses
- Advanced Clinical Endodontics
- Surgical Endodontics
- Clinical Dental Photography
- Classic Literature and Emerging Trends
- Current Literature Review
- Treatment Conference
- Research Methodology
- Microbiology
- Immunology
- Radiology
- Practice Management
- Clinical Training
- Research
- Undergraduate Teaching
- Participation at local and overseas conferences
- Overseas Attachment

Equipment Requirement

The resident is provided with most of the endodontic instruments and materials that are necessary for clinical practice. He/she will be required to purchase a clinical camera system with ring flash and close-up lens for documentation, an apex locator and ultrasonic tips. The resident is also expected to possess a notebook computer (specifications must include a 13-inch screen) and have the relevant software knowledge for the purposes of this residency programme.