

REVISED GUIDELINES FOR EDUCATIONAL REQUIREMENTS FOR SPECIALISATION IN ENDODONTICS

NOVEMBER 2007

NOTE: The original Australian Society of Endodontology (ASE) “*Guidelines for Educational Requirements for Specialisation in Endodontics*” were published in the April 1979 issue of the *Australian Endodontic Newsletter* (pp. 18-20). These Guidelines were revised in 1991 by the ASE’s Sub-Committee on Endodontic Education and again in 2000 in conjunction with Australian and New Zealand Academy of Endodontists (ANZAE). They were further reviewed and circulated by the ANZAE in September 2003. The latest revision was carried out in November 2007 during a meeting held in Melbourne of the teachers of Endodontics from all Australian University Dental Schools.

The Guidelines are published for the information of all members. Any comments regarding these guidelines would be welcomed and can be addressed to the President of the ANZAE.

INTRODUCTION

The specialty of endodontics has been established in Australia since about 1965. The need for practitioners with advanced endodontic training and specialist status is accepted by all Australian dental organisations and registration authorities as being essential and an important aspect that helps to maintain a high standard of dental care within the community.

In accordance with the recommendations of the Australian Dental Association Inc. for the training of dental specialists, a person desirous of being recognised as a specialist endodontist shall have:

1. Successfully completed an acceptable undergraduate course in dentistry;
2. Attained a legal status to practice dentistry;
3. Completed a period of at least two years in the clinical practice of general dentistry (private practice, hospital or other institutional practice, public health service or armed services); and
4. Completed a programme of full time study of at least three years duration, in which they have gained clinical experience in endodontic practice and have successfully completed a theoretical course in basic clinical sciences and endodontics leading to a postgraduate qualification at the level of a Master’s

degree, a Doctor of Clinical Dentistry Degree, or their equivalent from an Australian or New Zealand University.

It is also recognised that the various State Dental Boards may require additional periods of supervised or restricted practice prior to gaining specialist recognition and/or registration.

DEFINITION OF ENDODONTICS

Endodontics is that branch of Dentistry concerned with the morphology, physiology and pathology of the dental pulp and the peri-radicular tissues. The study and practice of Endodontics encompasses the basic clinical sciences including the biology of the normal pulp, root and periradicular tissues. It also includes the aetiology, prevention, diagnosis and treatment of diseases and injuries that affect the pulp and the peri-radicular tissues.

SCOPE OF ENDODONTICS

The scope of endodontics encompasses the comprehensive diagnosis and treatment of pulp and periradicular conditions with particular emphasis on pulp sensibility testing and radiology, dentine desensitisation and protection, pulp capping, partial and total pulpotomy, partial and total pulpectomy, the biomechanical debridement and subsequent filling of root canals, the surgical removal of pathological periapical tissues, the surgical placement of retrograde root fillings, the restoration of the natural appearance of the crown when discoloured, the management of cracked tooth problems, the repositioning of luxated teeth, the replantation and subsequent treatment of avulsed teeth, intentional replantation of teeth, transplantation of teeth, repair of traumatic or resorptive root perforations, apexification of immature roots, treatment of root fractures, endodontic re-treatment procedures, hemisection, root resection, recognition and treatment of resorptive defects and other areas related to the pulp, the peri-radicular tissues and their associated pathoses.

SELECTION OF CANDIDATES

Selection of a candidate should be based on the University's local academic qualifying requirements with regard for the desirability of a significant level of endodontic commitment on the candidate's part. Any other relevant qualifications

obtained, examinations undertaken successfully or involvement in other relevant professional activities should be taken into consideration when selecting candidates (e.g. Graduate Certificates or Diplomas in Clinical Dentistry, Fellowship in the Royal Australasian College of Dental Surgeons or passing the College's Primary Examinations, etc). Applicants should be able to demonstrate a high level of knowledge of endodontology, a high standard of clinical practice of dentistry (and especially endodontics), appropriate communication skills and a high level of commitment to continuing dental education prior to being selected.

EDUCATIONAL PROGRAMME

Courses of study in Australia and New Zealand should be university-based and arranged according to the availability of facilities and staff within the various Australian and New Zealand University Dental Schools, where clinical instructors should be registered endodontists. Local University By-laws and Rules for such courses may prescribe additional requirements to those outlined below.

Training programmes should be of three full-time years (or equivalent) in duration. The initial part of the course should aim to provide candidates with a sound basis for the more extensive clinical and research work that will be carried out in the later parts of the course.

It is recognised that a candidate should have a principal academic supervisor allocated from the university department in which he/she will be mainly working for the duration of the course. Training programmes should be supervised by a programme director who is a specialist endodontist.

Merit is also seen in having a panel of consultants review the candidate's clinical achievements at regular intervals (e.g. at the end of each Semester). Separate supervisor(s) may be allocated for the research project where other areas of expertise are required.

Time Allocation - A minimum of 50% up to a maximum of 60% of the total course time should be devoted to clinical activities. The remaining time should be allocated to didactic and research activities.

GENERAL OUTLINE OF COURSE

1. Basic Sciences

The current high status of undergraduate training in Australia and New Zealand in basic sciences is recognised. A high degree of familiarity with and knowledge of applicable aspects of anatomy, physiology, histology and embryology is fundamental to a programme aimed at producing theoretically and clinically competent endodontists and potential teachers. Some qualifying examination may be necessary to establish a student's knowledge in these areas. Where necessary, seminars/lectures may be employed to provide extra training.

2. Clinical Sciences

The disciplines which have a greater application to endodontics and which require a higher level of knowledge than that provided at undergraduate level are: oral pathology, molecular biology, oral microbiology, immunology, aspects of pharmacology, neurology, biostatistics and research methodology. These subjects should be covered by specifically arranged postgraduate seminars and postgraduate students may supplement these by attending relevant parts of undergraduate or other courses at their university.

3. Endodontics

An intensive course of reading, tutorials and seminars should be devised to cover current endodontic theory and practice. Early in the course, familiarity should be established with all recognised textbooks on endodontics, and this should be maintained throughout the entire course. Continuous study of the literature, both past and present, should be ensured in conjunction with regular assignments and seminars. Access to a well-stocked library of past and present literature is essential.

Encouragement should be provided for attendance at any accessible course, workshop and meeting in which content relevant to the science and practice of endodontics is included.

The clinical programme should be as diverse as possible to provide wide experience in endodontic practice. The importance of this is such that a review of the candidate's progress and scope of clinical cases should be conducted at regular intervals (e.g. at the end of each semester).

The formal training programme should provide as much knowledge and/or experience in the field of endodontics as possible (see Appendix One for suggested course content).

4. Research Training

Another important part of an advanced training programme is a research project of direct application to endodontics. This provides the student with valuable experience in research methodology and critical evaluation of the relevant literature. A course in biostatistics and research methodology is essential. The student should plan the research project and carry out some preliminary studies during the first half of the course. The research project should be completed and formally documented as a Research Report or thesis (according to the local university requirements) and/or as papers submitted for publication in refereed dental journals. Students should be encouraged to publish details of the research project in a reputable international dental/endodontic journal. They should also be encouraged to present the results of the project to scientific meetings of the ANZAE and the ASE Inc. In addition, they should be encouraged to take part in scientific meetings of the International Association for Dental Research (ANZ Division), and other dental meetings.

5. Research Report

Once completed, the research report/thesis should be submitted to at least two examiners for assessment. At least one of these examiners should be an “external examiner” who has had no contact with the student during the training course. This external examiner should preferably be familiar with the general topic of the research undertaken and ideally should reside in another Australian State or part of New Zealand and have teaching and research experience at the Master’s degree or Doctorate of Clinical dentistry level. The other examiner(s) should preferably be external to the University at which the student is studying. It is also recognised that each university may have its own rules/regulations regarding examination of research reports/theses.

6. Case Documentation

Postgraduate students should fully document their cases for subsequent assessment by supervisors and examiners. Students should be encouraged to participate in the

ASE Inc. Annual Case Report Competition and they should also consider publishing interesting cases in local, national or international dental and endodontic journals.

7. Inter-relationships with Other Fields of Dentistry

Involvement in the treatment of trauma (major and minor) and all aspects of endodontic surgery should be an essential component of the course. Close co-operation with the relevant Department of Oral and Maxillofacial Surgery and other departments such as pain clinics, Accident and Emergency departments of a major teaching hospitals (providing primary care of acute dental trauma) should be established and maintained.

Fixed and removable prosthodontics (including implantology), periodontology, paedodontics, orthodontics, oral pathology and oral medicine should all receive some time allocation during the training programme. Attendance at selected postgraduate and undergraduate courses or appropriate parts thereof should be encouraged.

8. Pain Clinic

A deeper involvement in the problems of diagnosis of pain can be achieved by attendance at sessions of a pain clinic with a multi-disciplinary team of consulting specialists. Should access to such a clinic be available at a major hospital, its incorporation in the course should be encouraged.

9. Teaching Experience

Students should be required to be involved in some teaching duties such as the instruction of undergraduate students in pre-clinical endodontics in the first half of the course. One session per week should be allocated to clinical endodontic teaching of senior undergraduates during the second half of the course. This should be reinforced by the presentation of seminars in endodontics to the undergraduate students. Where possible, students should attend courses/seminars on teaching methods that are applicable to university and continuing professional endodontics.

10. Experience in Endodontic Practice

Where possible, regular time should be spent observing and assisting endodontists in one or more private endodontic practice(s). This would provide additional clinical

experience and would allow direct observation of the many facets of speciality practice including practice management, report writing and the ethics associated with specialisation in dentistry.

11. Progressive Assessment

At the end of each semester or year of the course, the student should be formally assessed to ensure his/her adequacy and preparedness to proceed to the next semester/year. This assessment could include written and oral examinations and an update of the research work incorporating a literature review related to the chosen topic. In addition, case reports of all patients treated by the student during the semester/year should be presented (with supporting radiographs and other relevant documentation such as photographs, histopathology reports and referral letters, etc) for analysis and discussion of relevant aspects of such treatments. Students should be advised and counselled about their progress after each formal assessment period.

12. Final Assessment

The candidate should sit final written and oral examinations, and present detailed case reports for patients treated throughout the course. The thesis arising from the research project should be submitted to external examiners for evaluation, as above. Examiners for the final written, oral, clinical and case reports examinations should include at least one external examiner, preferably from another state of Australia or part of New Zealand, with experience in teaching at the postgraduate level.

CONCLUSION

The Australian and New Zealand Academy of Endodontists and the Australian Society of Endodontology Inc. believe that these Guidelines for a course leading to a higher qualification in endodontics would satisfy the educational requirements generally required for recognition nationally and internationally as a specialist Endodontist.

These Guidelines, particularly the detailed course content (Appendix One), should be reviewed regularly to ensure that they continue to provide such an educational background.

APPENDIX ONE – SUGGESTED DETAILED COURSE CONTENT

- Patient assessment and medical history
- History of the discipline and a thorough knowledge of the endodontic literature
- Management of medically compromised patients
- Diagnosis of pulp and peri-radicular pathoses and the different diagnosis of other conditions with similar presentations
- Evaluation of previous endodontic treatment
- Differential diagnosis of oro-facial pain
- Radiographic techniques and radiology
- Management and treatment planning of complex cases, including multi-disciplinary treatment planning
- Embryology and developmental defects affecting the teeth
- Local anaesthesia and sedation
- Infection control in dental practice
- Applied pharmacology and therapeutics
- Endodontic materials and instruments
- Pulp therapy - including: dentine desensitisation and protection, indirect pulp capping, direct pulp capping, partial pulpotomy, pulpotomy and partial pulpectomy
- Pulpectomy and associated endodontic procedures
- Microbiology and immunology of pulp and periapical diseases
- Endodontic management of necrotic pulps and pulpless teeth with associated periapical pathosis via root canal therapy and surgical techniques, including the management of: immature teeth, infections, canal obstructions, and iatrogenic problems.
- Methods of debridement and obturation of root canals
- Methods for isolation of teeth during endodontic treatment
- Management of endodontic emergencies
- The management of traumatic injuries to the teeth and mouth - including crown fractures, crown/root fractures, root fractures, concussion, subluxations, luxations, avulsions, alveolar bone fractures, abrasions, contusions and lacerations
- Replantation and transplantation of teeth and their subsequent management
- Aetiology, recognition and treatment of resorptive defects
- Aetiology and treatment of discoloured teeth
- Diagnosis and management of cracks in teeth
- Combined endodontic-periodontic pathosis (conservative and surgical management)
- Management of root perforations and other iatrogenic complications during endodontic treatment
- Paediatric endodontics
- Compromised endodontic procedures (e.g. devitalisation, mummification, etc) and their associated problems
- Methods of restoring endodontically treated teeth
- Principles of implantology
- Principles of tissue regeneration techniques
- Advanced instrumentation techniques
- Use of the dental operating microscope
- Report writing
- Record keeping for specialist practice.