

Outline of the Clinical Endodontics Professional Training

List of Topics for Discussion

1. *Anatomy of the root canal*
 - i. Define and describe the root canal space
 - ii. Identify landmarks for location of root canals
 - iii. Classify root canal systems
 - iv. Relate canal systems to tooth type and ethnicity

2. *Aetiology and pathology of endodontic disease*
 - i. Identify the role of micro-organisms in endodontic disease
 - ii. Understand the role and development of biofilms
 - iii. Describe the host response
 - iv. Classify lesions of endodontic origin

3. *Pain and endodontics*
 - i. Define Allodynia and Hyperalgesia
 - ii. Understand pain pathways
 - iii. Identify how different nerve fibres cause different pain response
 - iv. Manage failure of local analgesia
 - v. Strategise pharmaceutical management of pain of endodontic origin

4. *Irrigation:*
 - a. Types of Irrigant
 - i. Define the role of root canal irrigants
 - ii. Understand the types of irrigants used
 - iii. Consider the limitations of each irrigant
 - iv. Consider the sequence of use of irrigants
 - v. Consider the volume of irrigants
 - vi. Consider the concentration of irrigants

 - b. Delivery of Irrigants
 - i. Understand different delivery methods
 - ii. Consider the effect of needle design
 - iii. Consider the effect of irrigant volume and time in the canal
 - iv. Develop knowledge of contemporary advances in irrigants and their delivery

 - c. Adjunctive irrigant agitation techniques
 - i. Classify techniques available
 - ii. Understand the methods of action
 - iii. Compare advantages and disadvantages of each

5. *Preparation:*

- a. Hand Instrumentation
 - i. Understand the history of canal preparation
 - ii. Understand the evolution of instrument design
 - iii. Consider the limitations of stainless steel files
 - iv. Understand techniques of use
 - v. Consider classic techniques in the literature

- b. Automated Instrumentation
 - i. Classify automated instrumentation techniques
 - ii. Understand modes of action
 - iii. Consider the limitations of each
 - iv. Consider the benefits of each
 - v. Understand instrument development
 - vi. Understand NiTi designs and their effect on instrument behavior
 - vii. Understand the benefits and imitations of NiTi
- c. Non-instrumentation techniques

6. *Obturation*

- i. Define the goals of root canal obturation
- ii. Consider the materials available
- iii. Classify obturation techniques
- iv. Consider the benefits and limitations of each

7. *Endodontic Retreatment*

- i. What are the causes of endodontic failure
- ii. Consider the factors during case assessment
- iii. What factors affect outcomes
- iv. Removal/ Retention of crowns and bridges
- v. Removal of cast and fibre posts
- vi. Removal of pastes and cements
- vii. Removal of gutta percha with and without solvents
- viii. Management of fractured files
- ix. Management of blocked canals
- x. Management of perforations

8. *Endodontic Surgery*

- i. Indications and contraindications for endodontic surgery
- ii. Flap design, control of haemorrhage and suturing
- iii. The role of the DOM and micro-surgical equipment
- iv. The role a, types and chemistry of retrograde filling materials

9. *Management of the endodontic emergency*

- a. Anaesthesia
 - i. Types and delivery

- ii. Management of failure of anaesthesia
- iii. Adjunctive analgesic therapy
- b. Consider the role of antibiotics in endodontics

10. *Regeneration and Revascularization*

- i. What are the current techniques described
- ii. What effect do growth factors have
- iii. What effect do stem cells have
- iv. How can different irrigants enhance or inhibit success.

Using the classic and contemporary literature and texts, students should be able to develop a deep knowledge of study designs, outcome measures, test models used and the limitations and benefits of each.

The interrelationship between each category should be assimilated to develop a picture of historic and modern endodontic therapeutic techniques.

The students should be able to develop an evidence-based approach to endodontic decision-making and treatment planning and apply this to clinical practice.