



**COLLEGE OF PHYSICIANS AND  
SURGEONS PAKISTAN**

***FELLOWSHIP PROGRAMME***

***OPERATIVE DENTISTRY  
AND ENDODONTICS***

**DURATION OF TRAINING 4 YEARS**

**NOTICE: THE CURRICULUM IS APPLICABLE TO BATCHES INDUCTED IN JULY 2021 OR ONWARDS.**

**2022**

**THIS IS AN EVOLVING DOCUMENT**

The College of Physicians and Surgeons Pakistan would appreciate any criticism, suggestions, advice from the readers and users of this document. Comments may be sent in writing or by e-mail to the CPSP at:

**DIRECTORATE OF NATIONAL RESIDENCY PROGRAM (DNRP)**

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## ABOUT THE COLLEGE

The College was established in 1962 through an ordinance of the Federal Government. The objectives/functions of the College include promoting specialist practice of Medicine, Obstetrics & Gynaecology, Surgery and other specialties by securing improvement of teaching and training, arranging postgraduate medical, surgical and other specialists training, providing opportunities for research, holding and conducting examinations for awarding College diplomas and admission to the Fellowship of the College.

Since its inception, the College has taken great strides in improving postgraduate medical and dental education in Pakistan. Competency-based structured Residency Programs have now been developed, along with criteria for accreditation of training institutions, and for the appointment of supervisors and examiners. The format of examinations has evolved over the years to achieve greater objectivity and reliability in methods of assessment. The recognition of the standards of College qualifications nationally and internationally, particularly of its Fellowship, has enormously increased the number of residents and consequently the number of training institutions and the supervisors. The rapid increase in knowledge base of medical sciences and consequent emergence of new sub-specialties have gradually increased the number of CPSP fellowship disciplines to seventy eight including specialties in dentistry. After completing two years of core training during IMM, the residents are allowed to proceed to the advance phase of FCPS training in the specialty of choice for 2-3 years. However, it is mandatory to qualify IMM examination before taking the FCPS-II exit examination. The work performed by the resident is to be recorded in the e-logbook on daily basis. The purpose of the e-logbook is to ensure that the entries are made on a regular basis and to avoid belated and fabricated entries. It will hence promote accuracy, authenticity and vigilance on the part of residents and the supervisors.

The average number of candidates taking CPSP examinations each year is to a minimum of 32,000. The College conducts examinations for FCPS-I (11 groups of disciplines), IMM, FCPS-II (78 disciplines), MCPS (22 disciplines), including MCPS in Health Professions Education and Health Care System Management. A large number of Fellows and senior medical teachers from within the country and overseas are involved at various levels of examinations of the College.

The College, in its endeavor to decrease inter-rater variability and increase fairness and transparency, is using TOACS (Task Oriented Assessment of Clinical Skills) in IMM and FCPS-II Clinical examinations. Inclusion of foreign examiners adds to the credibility of its qualifications at an international level. It is important to note that in the overall scenario of health delivery over 85% of the total functioning and registered health care specialists of the country have been provided by the CPSP. To coordinate training and examination, and provide assistance to the candidates stationed in cities other than Karachi, the College has established 14 Regional Centres (including five Provincial Headquarter Centres) in the country. The five Provincial Headquarter Centres, in addition to organizing the capacity building workshops/short courses also have facilities of libraries, I.T, and evaluation of synopses and dissertations along with providing guidance to the candidates in conducting their research work. The training towards Fellowship can be undertaken in more than 248 accredited medical institutions throughout the country and 73 accredited institutions abroad. The total number of residents in these institutions is over 28,187 who are completing residency programs with around 4,207 supervisors. These continuous efforts of the College have even more importantly developed a credible system of postgraduate medical education for the country. The College strives to make its courses and training programme 'evidence' and 'needs based' so as to meet international standards as well as to cater to the specialist healthcare needs not only for this country but also for the entire region.

**Prof. Zafar Ullah Chaudhry**

President

College of Physicians and Surgeons Pakistan

## FELLOWSHIP DISCIPLINES

The College lays down the training programmes and holds examination for the award of fellowship in the following disciplines:

### DISCIPLINES FOR 1<sup>st</sup> FELLOWSHIP

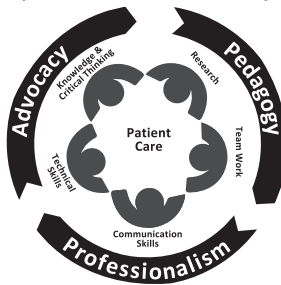
- |                          |                                          |
|--------------------------|------------------------------------------|
| 1. Anatomy               | 24. Obstetrics and Gynaecology           |
| 2. Anesthesiology        | 25. Operative Dentistry                  |
| 3. Biochemistry          | 26. Ophthalmology                        |
| 4. Cardiac Surgery       | 27. Oral & Maxillofacial Surgery         |
| 5. Cardiology            | 28. Orthodontics                         |
| 6. Chemical pathology    | 29. Orthopedic Surgery                   |
| 7. Clinical Haematology  | 30. Otorhinolaryngology (ENT)            |
| 8. Community Medicine    | 31. Paediatric Surgery                   |
| 9. Dermatology           | 32. Paediatrics                          |
| 10. Diagnostic Radiology | 33. Periodontology                       |
| 11. Emergency Medicine   | 34. Pharmacology                         |
| 12. Family Medicine      | 35. Physical Medicine and Rehabilitation |
| 13. Forensic Medicine    | 36. Physiology                           |
| 14. Haematology          | 37. Plastic Surgery                      |
| 15. Histopathology       | 38. Prosthodontics                       |
| 16. Immunology           | 39. Psychiatry                           |
| 17. Medicine             | 40. Pulmonology                          |
| 18. Medical Oncology     | 41. Radiotherapy                         |
| 19. Microbiology         | 42. Surgery                              |
| 20. Nephrology           | 43. Thoracic Surgery                     |
| 21. Neurology            | 44. Urology                              |
| 22. Neurosurgery         | 45. Virology                             |
| 23. Nuclear Medicine     |                                          |

### DISCIPLINES FOR 2<sup>nd</sup> FELLOWSHIP

- |                                              |                                                |
|----------------------------------------------|------------------------------------------------|
| 1. Breast Surgery                            | 18. Paediatric Endocrinology and Diabetes      |
| 2. Child and Adolescent Psychiatry           | 19. Paediatric Dermatology                     |
| 3. Cardio-Thoracic Anesthesiology            | 20. Paediatric Gastroenterology and Hepatology |
| 4. Clinical Cardiac Electrophysiology        | 21. Paediatric Haematology Oncology            |
| 5. Community and Preventive Paediatrics      | 22. Paediatrics Infectious Diseases            |
| 6. Critical Care Medicine                    | 23. Paediatric Nephrology                      |
| 7. Developmental and Behavioural Paediatrics | 24. Paediatric Neurology                       |
| 8. Endocrinology                             | 25. Paediatric Ophthalmology                   |
| 9. Gastroenterology                          | 26. Pain Medicine                              |
| 10. Gynecological Oncology                   | 27. Palliative Medicine                        |
| 11. Infectious Diseases                      | 28. Reproductive Endocrinology and Infertility |
| 12. Interventional Cardiology                | 29. Rheumatology                               |
| 13. Maternal & Fetal Medicine (MFM)          | 30. Surgical Oncology                          |
| 14. Neonatal Paediatrics                     | 31. Urogynaecology                             |
| 15. Orbit and Oculoplastics                  | 32. Vitreo Retinal Ophthalmology               |
| 16. Paediatric Cardiology                    | 33. Vascular Surgery                           |
| 17. Paediatric Critical Care Medicine        |                                                |

# CPSP COMPETENCY MODEL

College of Physicians and Surgeons Pakistan has moved to competency-based medical education and has developed its own competency model shown below. A generic explanation of the model is given below and it is expected that all its residency training programmes follow the components of this model in accordance to the requirements of each specialty.



Patient or population care occupies the pivotal center. Patient care includes all clinical skills such as history taking, physical examination, ordering investigations, making diagnoses and managing the care. The inner leaves of the model represent the five major competencies directly related to patient care, while the three competencies in the outer circle are mega-competencies related to patient care and also incorporate education, professionalism, leadership, advocacy and population health.

By the end of the Residency Programme, residents are expected to acquire these competencies and their constituent learning outcomes, and provide promotive, preventive, curative and rehabilitative patient-centered (or population-centered) care.

## Inner Leaves:

1. Knowledge and Critical Thinking
2. Technical Skills
3. Communication Skills
4. Teamwork
5. Research

### **Outer Leaves:**

6. Professionalism
7. Pedagogy
8. Advocacy

### **1. Knowledge and Critical Thinking**

- Demonstrate application of wide and current readings to critical thinking and problem solving
- Relate the alteration of body function to the presenting condition
- Interpret and integrate history and examination findings to arrive at an appropriate provisional and credible differential diagnoses
- Sequentially order, justify and interpret appropriate investigations
- Apply knowledge and reasoning skills to
  - Analyze data for problem identification and to rule in and rule out contending conditions
  - Synthesize and evaluate solutions for decision-making in solving familiar and less familiar problems based on best current evidence
  - Prioritize different problems within a time frame.
  - Select, outline and provide, with evidence-based justifications, appropriate pharmacological and non-pharmacological management strategies
  - Assess new medical knowledge and apply it to resolve patient problems (Evidence-based practice)
  - Apply quality assurance procedures in daily work. (Professionalism)
  - Demonstrate shared-decision-making with the patient or family
  - Provide cost-effective care while ordering investigations and in management
  - Use resources appropriately
  - Demonstrate awareness of bio-psycho-social factors in assessment and management of a patient.

## **2. Technical Skills**

- Demonstrate International Patient Safety Goals (IPSG)
- Demonstrate competent performance of all required technical skills and procedures in the specialty, including:
  - Obtaining informed consent
  - Preoperative planning
  - Pre-interventional care and preparation
  - Intra-Intervention technique including exposure and closure, global and task specific items, and communication and team skills
  - Post-interventional care
  - Follow-up Care.

## **3. Communication Skills**

- Written Communication Skills
  - Maintain clear, concise, accurate and updated medical records
  - Write clear, focused, evidence-based and logical management plans and discharge summaries
  - Write respectful, clear and focused letters and referrals to other colleagues.
- Verbal Communication Skills: Demonstrate
  - Effective interpersonal communication skills: clear, considerate and sensitive towards patients, their relatives, other health professionals and the public, and towards students
  - Non-verbal communication skills:
  - Empathy and respect towards patients and their relatives
  - Effective counseling of the patient and the family with cultural sensitivity: explain options, educate them and promote joint decision-making.
  - Appropriate verbal and body language on the campus and all work situations including seminars, bedside sessions, outpatient sessions and others
  - Respect and tolerance for all health care professionals, including peers, juniors and seniors
  - Clear, focused and logical presentation of cases.

#### **4. Teamwork**

- Demonstrate constructive team-communication skills.
- Facilitate collaborative group interaction as a team member to build strong teams demonstrating respect, tolerance and interdependence.
- Support other team members to grow
- Demonstrate willingness to assume responsibility and leadership as needed.

#### **5. Research**

- Interpret and use results of various research studies (critical appraisal)
- Conduct a research study individually or in a group by using appropriate
- Selection of research question(s) and objectives
- Research design and statistical methods to answer the research question
- Ethical and R&RC approval of the synopsis
- Demonstrate competence in academic writing by writing an appropriate dissertation and/or publishing research article(s) as a step towards resolving issues or concerns in their specialty
- Guide others in conducting research by advising about research methodology including study designs and statistical methods
- Demonstrate clear, focused and logical presentations of their research.

#### **6. Professionalism**

- Demonstrate the highest level of personal integrity: honesty, punctuality, regularity, timely task completion
- Deal with all patients in a non-discriminatory, prejudice-free manner, demonstrating the same level of care for every human being irrespective of gender, age, ethnic background, culture, socioeconomic status and religion
- Establish a trusting relationship with patients, their relatives and care-givers
- Deal with all patients with honesty, empathy and compassion, putting patients' needs first (altruism)

- Facilitate transfer of information important for promotion of health, prevention and management of disease
- Encourage questioning by the patient and be receptive to feedback
- Pursue self-directed and life-long learning. Keep abreast of medical literature and assess new knowledge and apply it to resolve patient problems
- Know one's limitations and ask for help as needed from colleagues, consultations or referrals
- Apply quality assurance procedures for improvement in daily work
- Be a role model for others.

### **Ethics**

- Maintain patient autonomy by demonstrating shared-decision-making with the patient and/or family
- Obtain informed consent, maintain patient confidentiality and do no harm
- Provide cost-effective care while ordering investigations and in management and use resources appropriately.

### **Leadership**

- Demonstrate accountability for their decisions and actions, and that of their team
- Demonstrate willingness to assume leadership role(s) when needed in given situations or events (rush call/code).
- Change and bring about change as necessary, as a leader or supportive leader.

### **7. Pedagogy**

Should be able to demonstrate competence in teaching skills:

- Effective clinical/community-based teaching
- Some evidence of acquisition of theory regarding learning and education
- Practice some of the best teaching methods.

## 8. Advocacy

Advocacy is needed at multiple levels

- Advocacy for the Patient
  - Doctors and nurses are the advocates of the patients, otherwise patients are likely to be lost in the system. All care should be timely, putting patients first.
- Advocacy for the Practice
  - Working in a service or practice, doctors must highlight limitations and issues
  - They must identify solutions for the problems, and recommend and implement improvements for the practice(s) and institutional system(s).
- Advocacy for the Health System and Society
  - Know one's role in the Health System(s) and build strong referral systems
  - Keep patient and community interests paramount, above one's own personal or professional interest
  - Demonstrate advocacy for elimination of the social determinants of health
  - Demonstrate advocacy for prevention of serious illnesses of their specialty/sub-specialty.
- For the Profession
  - Strive for building trust in the public for your profession
  - Demonstrate improvement and enhancement of profession, specialty and sub-specialty
  - Be conscientious gate-keepers of their profession, specialty and subspecialty.

# GENERAL REGULATIONS

The following regulations shall apply to all the candidates taking the fellowship examinations. Candidate will be admitted to the examination in the name (surname and other names) as given in the BDS degree. CPSP will not entertain any application for change of name on the basis of marriage/divorce/deed.

## ELIGIBILITY REQUIREMENT FOR ENTERING FELLOWSHIP PROGRAM IN OPERATIVE DENTISTRY AND ENDODONTICS

- Passed FCPS-I in Dentistry

## DURATION OF TRAINING

- Total duration of the training is 4 years divided into first two years of Intermediate Module (IMM) and last two years of advance phase of training (FCPS-II).

All training inclusive of rotations is to be completed one month before the date of theory examination.

## ROTATIONS

The following rotations are mandatory in each department:

- **IMM (First Two Years)**
  - Periodontics 2 Months
  - Oral and Maxillo-Facial Surgery 2 Months
- **Post IMM (Last Two Years)**
  - Prosthodontics (in 3rd Year) 2 Months

## APPROVED TRAINING CENTRES

Training must be undertaken in units/departments/institutions approved by the College. A current list of approved locations is available from the College and its regional offices as well as on the College website.

## **REGISTRATION AND SUPERVISION**

All training must be supervised and undertaken on whole time basis. The residents are required to register with the R&RC and submit the name of their supervisor. The supervisor will normally be a Fellow of the College. Only that training will be accepted which is done under a CPSP approved supervisor.

The residents are not allowed to work simultaneously in any other department/institutions for financial benefit and/or for another academic qualification.

## **RESEARCH (Dissertation/Two Papers)**

One of the training requirements is writing of a dissertation or two research papers on topic(s) related to the field of Operative Dentistry and Endodontics. Synopsis of the dissertation or title of research papers must be approved from the Research and Evaluation Unit (REU) of CPSP before starting the research work. The dissertation must be submitted for approval to the REU before or during the first six months of fourth year of training program.

## **E-LOGBOOK**

The CPSP council has made e-logbook system mandatory for all residency programme residents inducted from July 2011. Upon registration with R&RC each resident is allotted a registration number and a password to log on and make entries of all work performed and the academic activities undertaken in e-logbook on a daily basis or within a week. The concerned supervisor is required to verify the entries made by the resident within a fortnight. Absence of record of entries on e-logbook for an entire quarter shall automatically de-register the candidate from the residency programme. This system ensures timely entries by the resident and prompt verification by the supervisor. It also helps in monitoring the progress of residents and the vigilance of the supervisors.

## MANDATORY WORKSHOPS / COURSE

It is mandatory for all residents to attend the following CPSP certified workshops & course in the first two years of training (IMM):

1. Introduction to Computer and Internet
2. Research Methodology and Dissertation Writing
3. Communication Skills
4. Primary Surgical Skills
5. Basic Life Support (BLS) Course

Any other workshop/s as may be introduced by the CPSP.

**NOTE:** 1) The workshops are conducted by the Department of Medical Education and the candidates are advised to get registered online. The BLS course is conducted by the Advanced Skills Department (ASD) and the registration form is to be submitted with the ASD separately.

2) No candidate will be allowed to appear in IMM examination without attending the above mentioned workshops & BLS course.

## AWARD OF FELLOWSHIP

Fellowship of the College of Physicians and Surgeons Pakistan is awarded to those applicants who have:

- a recognized degree in dentistry;
- completed one year house job in a recognized institution
- passed the relevant FCPS Part I Examination;
- registered with the Registration & Research Cell (R&RC);
- undergone specified years of supervised accredited training on whole time basis.
- passed IMM examination in Operative Dentistry and Endodontics
- obtained approval of dissertation / two research articles (related to the specialty) published / accepted for publication in CPSP approved journal
- completion of entries in e-logbook along with validation by the supervisor;
- declared successful in examinations carried out by the examination department of the CPSP; and
- elected by the College Council It is important to note that all applicants must undergo a formal examination before being offered Fellowship of the relevant specialty, except

in case of Fellowship without examination.

### **TRAINING ENQUIRES AND REGISTRATION**

All residents should notify the College in writing of any change of address and proposed changes in training (such as change of Supervisor, change of department, break in training etc.) as soon as possible.

## ROLES AND RESPONSIBILITIES SUPERVISOR

Supervision of a resident is a multifaceted job. Arbitrarily the task is divided into the following components for the sake of convenience. This division is by no means exhaustive or rigid. It is merely meant to give semblance to this abstract and versatile role.

### EXPERT TRAINER

- This is the most fundamental role of a supervisor. S/he has to not only ensure and monitor adequate training but also provide continuous helpful feedback (formative) regarding the progress of the training
- This would entail observing the resident's performance and rapport with all the people within his/her work environment
- S/he should teach the residents and help them overcome the hurdles during the learning process
- It is the job of the supervisor to make the residents develop the ability to interpret findings in their patients and act suitably in response
- The supervisor must be adept at providing guidance in writing dissertation / research articles (which are essential components of training)
- Every supervisor is required to participate actively in Supervisors' workshops, conducted regularly by CPSP, and do his/her best to implement the newly acquired information/skills in the training. It is his/her basic duty to keep abreast of the innovations in the field of expertise and ensure that this information percolates to residents of all years under him/her

### **RELIABLE LIAISON**

- The supervisor must maintain regular contact with the College regarding training and the conduct of various mandatory workshops and courses
- It is expected that the supervisor will establish direct contact with relevant quarters of CPSP if any problem arises during the training process, including the suitability of resident
- S/he must be able to coordinate with the administration of his/her institution/organization in order to ensure that his/her residents do not have administrative problems hampering their training

### **PROFICIENT ADMINISTRATOR**

- The supervisor must ensure that the residents regularly fill their e-logbook
- S/he must provide quarterly feedback regarding each resident through e-log system
- S/he might be required to submit confidential reports on resident's progress to the College
- The supervisor should notify the College of any change in the proposed approved training program
- In case the supervisor plans to be away for more than two months, he/she must arrange satisfactory alternate supervision during the period

## ROLES AND RESPONSIBILITIES RESIDENT

Given the provision of adequate resources by the institution, residents should

- Accept responsibility for their own learning and ensure that it is in accord with the requirements of the particular discipline
- Play an informed role in the selection of the supervisor
- Seek reasonable infrastructure support from their institution and supervisor, and use this support effectively
- Ensure that all outlined aspects of training are covered during the defined training period
- Work with their supervisors in writing the synopsis/research proposal and submit the synopsis/research proposal by the end of first year of their registration with the R&RC
- Accept responsibility for the dissertation and plan to execute the research within the time limits defined
- Be responsible for arranging regular meetings with the supervisor to discuss and document progress. If the supervisor is not able/willing to meet with the resident on a regular basis, he/she must notify the College
- Provide the supervisor with word processed updated synopsis and dissertation drafts (ensure it has been checked for spelling, grammar and typographical errors, prior to submission) and provide the raw data to the supervisor if required
- Submit completed dissertation to R&RC or evidence of publication/acceptance for publication of two research papers in CPSP approved journal(s) or JCPSP six months before the completion of (last year of) training. The resident should be the first or second author of both papers and the synopsis of both papers must have a prior approval of R&RC
- Follow the College complaint procedure if serious problem arises
- Complete all requirements for sitting an examination

## CURRICULUM: AIMS, COMPETENCIES & OUTCOMES

The aim of the fellowship in Operative Dentistry and Endodontics is to produce specialists and academicians who have attained the required competencies.

### CORE COMPETENCIES

Training of fellowship in Operative Dentistry and Endodontics is organized on the CPSP competency model described earlier, which integrates all the three domains of learning. The central competency is Patient care, whereas the competencies of knowledge and critical thinking, technical skills, communication skills, teamwork and research are the competencies that directly enable to acquire an effective and efficient patient care. The three more competencies included in the model namely pedagogy, professionalism and advocacy help in learning (pedagogy) necessary knowledge, skills and attitudes needed for optimum and professional (professionalism) patient care as well as to educate people on prevention of disease and promotion of health through advocacy.

### OUTCOMES:

At the end of the training for FCPS in Operative Dentistry and Endodontics a resident shall be able to:

- Initially assess the patients seeking advice for symptoms related to the muscles, bones & joints around both jaws by:
  - Obtaining pertinent history
  - Performing physical examination
  - Formulating a working diagnosis
  - Deciding whether the patient requires:
    - Referral to other health professionals prior to treatment
    - Simple Operative Dentistry treatment
    - Treatment under the supervision of a multi-professional team

- Manage patients requiring Operative Dentistry treatment:
  - Plan an investigation strategy i.e. order appropriate investigations and interpret the results
  - Perform Operative Dentistry procedures independently and competently when required.
  - Manage effectively and promptly complications, which may occur during the course of treatment.
  - Arrange for rehabilitation of patients, when required
  - Maintain records of patients
- Be familiar with latest research and published findings
- Acquire new information, assess its utility and use it for managing patient problems
- Recognize the role of teamwork and function as effective member/leader of the team.

# ***INTERMEDIATE MODULE***

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## ***(IMM)***

## SYLLABUS

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The IMM syllabus in Operative Dentistry and Endodontics covers cognitive competencies that integrate relevant basic and clinical sciences.

The list of content included in the syllabus is not intended to be exhaustive, but it mentions important areas:

### OPERATIVE DENTISTRY

- Clinical significance of dental anatomy, histology and physiology of enamel, dentin, pulp and cementum as well as the supporting tissues of bone and gingiva
- Importance of dental occlusion in Operative Dentistry
- Dental caries
- Patient evaluation, examination, diagnosis and problem oriented treatment planning
- Esthetic considerations in diagnosis & treatment planning
- Sterilization and cross infection control
- Pain control in Operative Dentistry
- Physical, mechanical and optical properties of dental materials
- Dental biomaterials:
  - Zinc oxide eugenol
  - Calcium hydroxide
  - Zinc phosphate
  - Polycarboxylate cement
  - Glass ionomer cements
  - Resin-modified glass ionomer (RMGI) cements
  - Calcium silicate based cements
  - Bioceramics
  - Dental ceramics
  - Silver amalgam
  - Composites
- Classification, ideal properties and manipulation of Impression materials
- Instruments and equipment for tooth preparation
- Preliminary considerations for Operative Dentistry
- Dentin hypersensitivity
- Periodontal restorative inter-relationship
- Fundamental of tooth preparation and pulp protection

- Clinical technique for amalgam restorations
- Complex amalgam restorations
- Fundamental concept of enamel and dentin adhesion
- Direct anterior restorations
- Direct posterior esthetic restorations
- Aesthetic dentistry
- Diagnosis and treatment of root caries
- Natural tooth bleaching
- Porcelain veneers
- Anterior ceramic veneers
- Esthetic inlay and onlays
- Non carious lesions and their management
- Digital dentistry in Operative Dentistry
- Lasers in Operative Dentistry
- Class II cast metal restorations
- Direct gold restorations
- Resin-bonded splints and bridges

## **ENDODONTICS**

- Structure and functions of the dentin-pulp complex
- Microbiology of endodontic infections
- Pathobiology of apical periodontitis
- Comprehensive diagnosis and treatment planning
- Endodontic armamentarium
- Prevention of dental disease
- Sedation, local and general anesthesia
- Dental radiography and radiographic interpretation
- Pharmacology and therapeutics
- Management of medically/clinically compromised patients
- Communication, interpersonal skills and team leadership
- Pulp reactions to caries and dental procedure
- Diagnosis and management of pulpal and periapical disease
- Diagnosis and management of orofacial pain, psychogenic pain and TMD
- Lesions that mimic endodontic pathosis
- Diagnosis and management of dento-alveolar infections and sequelae
- Diagnosis and management of endodontic-periodontal lesions

- Tooth morphology, anatomy, pulp morphology, and Morphological anomalies
- Isolation, access preparation and working length Determination
- Cleaning, shaping and obturation of root canal system
- Bleaching procedures
- Assessment and management of teeth which have Previously undergone endodontic treatment
- Surgical endodontics
- Management of traumatic injuries to teeth
- Regenerative endodontics
- Vital pulp therapy
- Root resorption
- Management of endodontic emergencies
- Managing iatrogenic events
- Chronic cracks and fractures
- Endodontic records and legal responsibilities
- Key principles of endodontic practice management
- Systemic health considerations in the endodontic patient and geriatric endodontics
- Lasers in endodontics
- Magnification in endodontics
- Review and maintenance procedures
- Periodontics & prosthodontics in relation to endodontics
- The orthodontic/endodontic interface
- Restoration of endodontically treated teeth
- Techniques of case documentation
- Evaluation of treatment outcomes

## **PAEDODONTICS**

- Introduction to dental office
- History, examination, risk assessment and treatment planning
- Safeguarding children
- Management of pain and anxiety
- Local anesthesia for children
- Diagnosis and prevention of dental caries
- Treatment of dental caries in the preschool child
- Operative treatment of dental caries in the primary dentition

- Operative treatment of dental caries in the young permanent dentition
- Advanced restorative dentistry
- Traumatic injuries to the teeth
- Anomalies of tooth formation and eruption
- Space maintenance in the primary dentition
- Management of congenitally missing lateral incisor
- Enforced extraction of first permanent molars
- Retained primary teeth
- Infra-occluded primary teeth
- Management of medically compromised children

## CORE COMPETENCIES

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The level of competence to be achieved each year is specified according to the key, as follows:

**Levels of competencies:**

1. Observer status.
2. Assistant status.
3. Performed under supervision.
4. Performed independently

COMPETENCIES	FIRST YEAR										Total # of Cases
	03 MONTHS		06 MONTHS		09 MONTHS		12 MONTHS				
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
HISTORY TAKING											
PERFORMING CLINICAL EXAMINATION											
ORDERING APPROPRIATE INVESTIGATIONS & CORRECT INTERPRETATIONS	1	10	2	10	3	10	4	10			40
FORMULATING A WORKING DIAGNOSIS											
DEVISING TREATMENT PLAN	1	5	2	5	3	10	4	10			30
OPERATIVE DENTISTRY											
PERFORMING CARIES RISK ASSESSMENTS	1	5	2	5	3	10	4	10			30
COMMUNICATING DIETARY ADVICE AND ORAL HYGIENE INSTRUCTIONS	1	5	2	5	3	10	4	10			30
DIAGNOSING CARIOUS LESIONS	1	5	2	5	3	10	4	10			30
PROVIDING ADEQUATE PAIN CONTROL	1	5	2	5	3	10	4	15			35
PREPARING AND RESTORING CARIOUS LESIONS											
CLASS I TOOTH PREPARATION AND AMALGAM RESTORATION ON PHANTOM HEAD	3	10	4	10	-	-	-	-			20
CLASS II TOOTH PREPARATION AND AMALGAM RESTORATION ON PHANTOM HEAD	3	10	4	10	-	-	-	-			20
CLASS V TOOTH PREPARATION AND AMALGAM RESTORATION ON PHANTOM HEAD	3	10	4	10	-	-	-	-			20
CLASS III TOOTH PREPARATION AND COMPOSITE RESTORATION ON PHANTOM HEAD	3	10	4	10	-	-	-	-			20

COMPETENCIES		FIRST YEAR								Total # of Cases
		03 MONTHS		06 MONTHS		09 MONTHS		12 MONTHS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
CLASS IV TOOTH PREPARATION AND COMPOSITE RESTORATION ON PHANTOM HEAD		3	10	4	10	-	-	-	-	20
CLASS V TOOTH PREPARATION AND COMPOSITE RESTORATION ON PHANTOM HEAD		3	10	4	10	-	-	-	-	20
AMALGAM RESTORATIONS		1	5	2	5	3	10	4	10	30
COMPLEX AMALGAM RESTORATIONS		1	3	2	3	3	5	4	5	16
ANTERIOR COMPOSITE RESTORATIONS		1	2	2	3	3	5	4	10	20
POSTERIOR COMPOSITE RESTORATIONS		1	2	2	3	3	5	4	10	20
GIC RESTORATIONS/COMPOMERS/RMGIC		1	2	2	3	3	5	4	10	20
PATIENT RECORD MANAGEMENT & TIME MANAGEMENT		1	5	2	5	3	10	4	15	35
ENDODONTICS										
HISTORY TAKING										
PERFORMING CLINICAL EXAMINATION										
ORDERING APPROPRIATE INVESTIGATIONS & CORRECT INTERPRETATIONS		1	10	2	10	3	10	4	10	40
FORMULATING A WORKING DIAGNOSIS										
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR VITAL SINGLE ROOTED TEETH		1	5	2	5	3	10	4	15	35
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR VITAL MULTI ROOTED TEETH		1	5	2	5	3	5	4	10	25
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL SINGLE ROOTED TEETH		1	5	2	5	3	5	4	10	25

COMPETENCIES	FIRST YEAR										Total # of Cases
	03 MONTHS		06 MONTHS		09 MONTHS		12 MONTHS				
	Level	Cases	Level	Cases	Level	Cases	Level	Cases			
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL MULTI ROOTED TEETH	1	5	2	5	3	5	4	5		20	
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR SINGLE ROOTED TEETH	1	3	2	3	3	3	-	-		9	
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH	1	3	2	3	-	-	-	-		6	
PERFORMING SINGLE VISIT ENDODONTIC TREATMENT	-	-	-	-	-	-	-	-			
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR ALL TEETH	1	2	2	2	-	-	-	-		4	
RESTORING ENDODONTICALLY TREATED TEETH	1	5	2	5	3	15	4	15		40	
CARRYING OUT APEXOGENESIS/ VITAL PULP THERAPY	1	3	2	3	3	4	4	4		14	
PERFORMING APEXIFICATION	1	3	2	3	3	4	4	4		14	
PERFORMING ENDODONTIC PROCEDURES UNDER APPROPRIATE MAGNIFICATION/OPERATING MICROSCOPE	1	1	2	2	2	2	-	-		5	
CARRYING OUT NON VITAL BLEACHING	1	2	2	2	-	-	-	-		4	
SPLINTING TEETH	1	2	2	2	-	-	-	-		4	
PAEDODONTICS											
SEALING PITS AND FISSURE	1	2	2	3	3	5	4	10		20	
PERFORMING PREVENTIVE RESIN RESTORATIONS	1	2	2	3	3	5	4	10		20	
CARRYING OUT VITAL PULPOTOMY	1	2	2	3	3	5	4	10		20	
PERFORMING ROOT CANAL TREATMENT OF DECIDUOUS TEETH	1	2	2	3	3	5	4	5		15	

COMPETENCIES	SECOND YEAR								Total # of Cases
	15 MONTHS		18 MONTHS		21 MONTHS		24 MONTHS		
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
HISTORY TAKING									
PERFORMING CLINICAL EXAMINATION									
ORDERING APPROPRIATE INVESTIGATIONS AND CORRECT INTERPRETATIONS	3	5	4	10	4	10	4	10	35
FORMULATING A WORKING DIAGNOSIS									
DEVISING TREATMENT PLAN	3	5	3	5	4	5	4	5	20
OPERATIVE DENTISTRY									
PERFORMS CARIES RISK ASSESSMENTS	3	5	3	5	4	5	4	5	20
COMMUNICATING DIETARY ADVICE AND ORAL HYGIENE INSTRUCTIONS	3	5	3	5	4	5	4	5	20
DIAGNOSING CARIOUS LESIONS	3	5	3	5	4	5	4	5	20
PROVIDING ADEQUATE PAIN CONTROL	3	5	3	5	4	10	4	10	30
PREPARES AND RESTORES CARIOUS LESIONS									
AMALGAM RESTORATIONS	3	5	3	5	4	5	4	5	20
COMPLEX AMALGAM RESTORATIONS	3	2	3	3	4	5	4	5	15
ANTERIOR COMPOSITE RESTORATIONS	3	2	3	3	4	5	4	5	15
POSTERIOR COMPOSITE RESTORATIONS	3	2	3	3	4	5	4	5	15
GIC RESTORATIONS /COMPOMERS/RMGIC	3	2	4	3	4	5	4	5	15
PATIENT RECORD MANAGEMENT & TIME MANAGEMENT	3	3	4	3	4	4	4	5	15

COMPETENCIES		SECOND YEAR								Total # of Cases
		15 MONTHS		18 MONTHS		21 MONTHS		24 MONTHS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
ENDODONTICS										
HISTORY TAKING										
PERFORMING CLINICAL EXAMINATION										
ORDERING APPROPRIATE INVESTIGATIONS & CORRECT INTERPRETATIONS		3	2	3	3	4	5	4	5	15
FORMULATING A WORKING DIAGNOSIS										
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR VITAL MULTI ROOTED TEETH		3	5	3	5	4	5	4	5	20
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL SINGLE ROOTED TEETH		3	5	3	5	4	5	4	5	20
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL MULTI ROOTED TEETH		3	5	3	5	4	5	4	5	20
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR SINGLE ROOTED TEETH		2	3	3	3	3	3	4	3	12
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH		2	3	3	3	3	3	4	3	12
PERFORMING SINGLE VISIT ENDODONTIC TREATMENT		1	5	2	5	3	2	2	3	15
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR ALL TEETH		1	2	2	2	2	2	4	2	8
RESTORING ENDODONTIC ALLY TREATED TEETH		3	5	3	5	4	5	4	5	20
CARRYING OUT APEXOGENESIS/ VITAL PULP THERAPY		3	3	3	3	3	2	4	2	10

COMPETENCIES		SECOND YEAR								Total # of Cases
		15 MONTHS		18 MONTHS		21 MONTHS		24 MONTHS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
PERFORMING APEXIFICATION		3	3	3	3	3	2	3	2	10
PERFORMING ENDODONTIC PROCEDURES UNDER APPROPRIATE MAGNIFICATION/OPERATING MICROSCOPE		1	2	2	2	3	2	-	-	6
NON VITAL BLEACHING		1	2	2	2	3	2	4	2	8
SPLINTING TEETH		1	2	2	2	3	2	2	2	8
MANAGING MEDICALLY COMPROMISED PATIENTS		-	-	-	-	1	2	2	2	4
CARRYING OUT REVASCULARIZATION/REGENERATION		-	-	-	-	1	2	2	2	4
PAEDODONTICS										
SEALING PITS AND FISSURE		4	2	4	3	4	5	4	5	15
CARRYING OUT PREVENTIVE RESIN RESTORATIONS		4	2	4	3	4	5	4	5	15
PERFORMING VITAL PULPOTOMY		4	2	4	2	4	2	4	2	8
PERFORMING ROOT CANAL TREATMENT OF DECIDUOUS TEETH		4	2	4	3	4	5	4	5	15

ROTATIONS		PERIODONTICS (2 MONTHS)								TOTAL # OF CASES
		2 WEEKS		2 WEEKS		2 WEEKS		2 WEEKS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
HISTORY TAKING AND CLINICAL EXAMINATION DIAGNOSIS AND TREATMENT PLANNING PERFORMING NON-SURGICAL PROCEDURES TO MANAGE PERIODONTAL DISEASE		1	4	2	4	3	4	4	4	16
		1	4	2	4	3	4	4	4	16
		1	4	2	4	3	4	4	4	16
PERFORMING GINGIVECTOMY PERFORMING CROWN LENGTHENING PERFORM GBR/ GTR		1	2	2	2	3	2	4	2	8
		1	2	2	2	3	2	4	2	8
		1	1	2	1	3	2	4	2	6

ROTATIONS	ORAL AND MAXILLO-FACIAL SURGERY (2 MONTHS)								TOTAL # OF CASES
	2 WEEKS		2 WEEKS		2 WEEKS		2 WEEKS		
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
HISTORY TAKING AND CLINICAL EXAMINATION DIAGNOSIS AND TREATMENT PLANNING PERFORM SIMPLE EXTRACTION OF PERMANENT TEETH UNDER LOCAL ANAESTHESIA	1	4	2	4	3	4	4	4	16
	1	4	2	4	3	4	4	4	16
	2	5	3	5	4	5	4	5	20
	2	2	3	2	4	2	4	2	8
PERFORM INTRA-ORAL INCISION AND DRAINAGE FOR MANAGEMENT OF ODONTOGENIC ABSCESS UNSAFELY PERFORM INCISION BIOPSY FOR ORAL MUCOSAL LESIONS	1	1	2	1	3	1	4	1	4
TAKE DIFFERENT TYPES OF FLAPS	1	1	2	2	3	2	4	3	8
PLACE SUTURES	1	1	2	2	3	2	4	3	8

## ASSESSMENT

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### FORMATIVE ASSESSMENT:

College of Physicians and Surgeons Pakistan, in order to implement competency based education in letter and spirit, is introducing Work Placed Based Assessment (WPBA) in addition to institutional/ departmental assessments. To begin with college is introducing Mini-CEX and DOPS to ensure that the graduates are fully equipped with the clinical competencies.

### Mini Clinical Evaluation Exercise (Mini-CEX)

During training in Operative Dentistry and Endodontics, at least one Mini-CEX in each quarter is to be conducted from the list given below.

- Mini-CEX is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each Mini-CEX encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- All topics given below are to be covered.
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form (sample given below)

### Topics for Mini-CEX

- **Dental Caries** (*History-taking, Clinical Examination & Communication Skills*)
- **Non Carious Lesions** (*History-taking, Clinical Examination & Patient Counseling*)
- **Pulpal Diseases** (*History-taking, Clinical Examination & Patient Education*)
- **Peri-apical Diseases** (*History-taking & Clinical Examination*)
- **Behaviour Management of Children**
- **Non Odontogenic Pain** (*History-taking & Clinical Examination*)
- **Periodontal Disease** (*History-taking & Clinical Examination*)
- **Trauma** (*History-taking & Clinical Examination*)
- **Discoloration** (*History-taking & Clinical Examination*)



COLLEGE OF  
PHYSICIANS AND  
SURGEONS  
PAKISTAN

## MINI CLINICAL EVALUATION EXERCISE (CEX)

FCPS: OPERATIVE DENTISTRY AND ENDODONTICS

Time Duration = 20 minutes (15 minutes assessment and 5 minutes feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: \_\_\_\_\_ Assessment Date: \_\_\_\_\_

Resident's Name: \_\_\_\_\_

Hospital Name: \_\_\_\_\_ R&RC Number: \_\_\_\_\_

Year of Residency: ☐ R1 ☐ R2 ☐ R3 ☐ R4

Quarter: ☐ 1st ☐ 2<sup>nd</sup> ☐ 3<sup>rd</sup> ☐ 4<sup>th</sup>

Setting: ☐ Ward ☐ Other: \_\_\_\_\_

Diagnosis of Patient: \_\_\_\_\_ Patient Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Clinical Area: \_\_\_\_\_

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Focus of Clinical Encounters:

☐ History Taking ☐ Oral Examination ☐ Communication Skills ☐ Management ☐ Other: \_\_\_\_\_

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2	3	4	5
Informed Consent of patient						
Interviewing Skills						
Systematic Progression						
Presentation of positive & significant negative findings						
Justification of actions						
Professionalism						
Organization/Efficiency						
Overall Clinical Competence						

Assessor's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Strengths	Suggestions for Improvement

Encounter to be repeated ☐ YES ☐ NO

\_\_\_\_\_  
Signature

## **Direct Observation of Procedural Skills (DOPS)**

During training in Operative Dentistry and Endodontics, at least one DOPS in each quarter is to be conducted from the list given below.

- DOPS is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each DOPS encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- All topics given below are to be covered
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form (sample given below)

### **Topics / Procedures for DOPS**

- Rubber Dam Application
- Class I & II tooth preparations
- Class I & II Amalgam Restorations
- Class III-VI Tooth Preparations & Composite Restorations
- Access opening, Pulpotomy / WL determination, Cleaning & Shaping
- Cold Lateral Obturation
- Warm Vertical Obturation
- Rotary Endodontics
- Post + Core build up



## DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)

### FCPS: OPERATIVE DENTISTRY AND ENDODONTICS

Time Duration = 20 minutes (15 minutes assessment and 5 minutes feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: \_\_\_\_\_ Assessment Date: \_\_\_\_\_

Resident's Name: \_\_\_\_\_

Hospital Name: \_\_\_\_\_ R&RC Number: \_\_\_\_\_

Year of Residency: ☐ R1 ☐ R2 ☐ R3 ☐ R4

Quarter: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

Setting: ☐ Ward Other: \_\_\_\_\_

Diagnosis of Patient: \_\_\_\_\_ Patient Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of Procedure: \_\_\_\_\_

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Number of times procedure performed by Resident: \_\_\_\_\_

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2	3	4	5
Indications, anatomy & steps of procedure						
Informed consent, with explanation of procedure and complications						
Preparation for procedure						
Use of local anesthesia						
Observance of asepsis						
Safe use of instruments						
Use of accepted techniques						
Management of unexpected event (or seeks help)						
Post-procedure instructions to patient and staff						
Professionalism						
Overall ability to perform whole procedure						

Assessor's Satisfaction with DOPS:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with DOPS:

(Low) 1 2 3 4 5 (High)

Strengths	Suggestions for Improvement

Encounter to be repeated ☐ YES ☐ NO

Signature \_\_\_\_\_

## GUIDELINES FOR PROCEDURE-SPECIFIC DOPS ASSESSMENT

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### RUBBER DAM APPLICATION

#### *Accepted Techniques*

- Technique selection (quadrant/single tooth/split dam)
- Clamp Selection
- Hole punching
- Flossing clamp
- Application of rubber dam
- Application of frame
- Flossing through contact
- Absence of leakage/tear
- Removal of rubber dam

### CLASS I TOOTH PREPARATION

#### *Accepted Techniques*

- Rubber Dam Application
- Outline Form
  - Extension Proper extended
  - Width 1-1.5mm
- Resistance form
  - Pulpal floor 0.5mm below DEJ  
Flat, Parallel to the occlusal plane
  - Marginal ridge Preserved
  - Mesial & distal wall Divergent
  - Line angles Round
- Retention form Buccal and Lingual walls  
Slightly converge
- Convenience Form

## CLASS II TOOTH PREPARATION

### *Accepted Techniques*

- Rubber Dam Application
- Outline Form
  - Extension Proper extended
  - Width 1-1.5mm
  - Proximal outline 0.5 mm of the contact area
- Resistance form
  - Pulpal floor 0.5mm below DEJ  
Flat, Parallel to the occlusal plane
  - Marginal ridge Preserved
  - Mesial & distal wall Divergent
  - Line angles Round
  - Axio-pulpal line angle Round
  - Axial wall 0.5 mm below DEJ
  - Isthmus Properly extended
- Retention form
  - Buccal and Lingual walls Slightly converge
  - Dovetail/ Axial retention grooves Prepared
- Convenience Form

## CLASS III AND IV TOOTH PREPARATION

### *Accepted Techniques*

- Rubber Dam Application
- Outline Form
- Extension Proper extended
- Resistance form
  - Axial wall 0.5 mm below DEJ
  - Bevel Present
  - Incisal edge Preserved
  - Incisal and gingival walls Divergent
  - Line angles Rounded
- Retention form Slightly converge
- Convenience form

## CLASS V TOOTH PREPARATION

### *Accepted Techniques*

- Rubber Dam Application
- Outline Form
  - Extension Proper extended
  - Outer Contour Followed
- Resistance form 0.5 mm below DEJ Pulpal floor  
Smooth & convex mesiodistally
- Axial Wall 0.5 mm below DEJ
- Line angles Rounded
- Retention form
- Buccal & Lingual wall Slightly converge
- Convenience form

## AMALGAM RESTORATION

### *Accepted Techniques*

- Rubber Dam Application
- Sealer/ liner/ base
- Matricing / Wedge
- Condensation
- Carving
- Margins
- Contour
- Marginal ridge
- Proximal Contact
- Gingival overhang
- Anatomical considerations
- Occlusion
- Quality of restoration (radiograph)

## COMPOSITE RESTORATION

### *Accepted Techniques*

- Shade Match
- Rubber Dam Application
- Tooth preparation
- Enamel Bevel (if needed)
- Anatomical considerations
- Proximal contact
- Finishing and polishing
- Occlusion

## **PULPOTOMY**

### *Accepted Techniques*

- Case selection
- Rubber Dam Application
- Access opening
- Hemostasis
- Capping material selection
- Selection of restorative material
- Quality Assessment on radiograph

## **ACCESS OPENING, W. L. DETERMINATION, CLEANING AND SHAPING**

### *Accepted Techniques*

- Rubber Dam Application
- Removal of all caries
- Access cavity preparation
- Root Canal locations
- Working length determination
- Initial apical file (IAF) Selection
- Master Apical file (MAF) determination
- Final File (FF) determination
- Preparation Technique
- Restoration

## **ROTARY ENDODONTICS**

### *Accepted Techniques*

- Rubber dam Application
- Removal of all caries
- Access cavity preparation
- Root Canal locations
- Working length determination
- Initial apical file (IAF) Selection
- Master Apical file (MAF) determination
- Cleaning & Shaping
- Rotary Speed & torque
- Restoration

## **COLD LATERAL OBTURATION**

### *Accepted Techniques*

- Rubber Dam Application
- Fit of Master Apical Cone
- Proper sealer application
- Selection of core material
- Proper condensation of accessory cones
- Post-operative radiograph
- Length control of obturation
- Density and Taper of obturation

## **WARM VERTICAL OBTURATION**

### *Accepted Techniques*

- Case selection for specific obturation technique
- Rubber Dam Application
- Selection of core material
- Protocol of obturation
- Length control of obturation
- Apical plug formation
- Post-operative radiograph
- Quality of obturation
- Restoration

## **POST + CORE BUILD UP**

### *Accepted Techniques*

- Case selection
- Rubber Dam Application
- Post selection
- Post space preparation
- Choice of core material
- Post-operative radiograph

## **SUMMATIVE ASSESSMENT: ELIGIBILITY REQUIREMENTS**

For appearing in Intermediate Module examination a candidate must have:

- Passed FCPS-I in Dentistry or granted exemption by CPSP
- Registered with the Research and Registration Cell (R&RC)
- Completed two years of training under an approved supervisor in an institution recognized by the CPSP. A certificate of completion of training must be submitted
- Completion of entries in e-logbook along with validation by the supervisor
- Submitted certificates of attendance of mandatory workshops
- Submission of the Synopsis for dissertation or abstracts for two research articles

## **EXAMINATION SCHEDULE**

- The Intermediate Module theory examination will be held twice a year. Theory examinations are held in various cities of the country usually at Abbottabad, Bahawalpur, Faisalabad, Hyderabad, Islamabad, Karachi, Lahore, Larkana, Nawabshah, Multan, Peshawar, Quetta and Rawalpindi centers. The College shall decide where to hold TOACS examination depending upon the number of candidates in a city and shall inform the candidates accordingly.
- English is the medium of all examinations i.e. theory & TOACS.
- The College will notify of any change in the centers, the dates and format of the examination.
- A competent authority appointed by the College has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a suitable person to take the College examination because of using unfair means in the examination, misconduct or other disciplinary reasons.

## EXAMINATION FEE

- Applications along with the prescribed examination fee and required documents must be submitted by the last date notified for this purpose before each examination.
- The details of examination fee and fee for change of center, subject, etc. shall be notified before each examination.
- Fee deposited for a particular examination shall not be carried over to the next examination in case of withdrawal, absence or exclusion

## REFUND OF FEES

If after submitting an application for examination, a candidate decides not to appear, a written request for a refund must be submitted before the last date for withdrawal with the receipt of applications. In such cases a refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the closing date for receipt of applications for refund.

If an application is rejected by the CPSP, 75% of the examination fee will be refunded, the remaining 25% being retained as a processing charge. No refund will be made for fees paid for any other reason, e.g. late fee, change of centre/subject fee, etc.

## FORMAT OF EXAMINATION

Intermediate Module examination consists of the following components:

### Theory Examination:

*It consists of:*

**Paper-I:** 10 Short Answer Questions (SAQs)

**Paper-II:** 100 Single Best MCQs

### Clinical Examination:

The clinical examination consist of TOACS.

## **TOACS**

TOACS will comprise of 10 to 15 stations of six minutes each with a change time of one minute for the candidate to move from one station to the other. The stations may have an examiner, a patient or both. Structured clinical tasks will be set at each station. At stations where no examiner is present the candidates will have to submit written responses to short answer questions / MCQs on a response sheet.

There will be two types of stations: static and interactive. On static stations the candidate will be presented with patient data, a clinical problem or a research study and will be asked to give written responses to questions asked.

In the interactive stations the candidate will have to perform a procedure, for example, taking history, performing clinical examination, counseling, assembling an instrument etc. One examiner will be present at each interactive station and will either rate the performance of the candidate or ask questions testing reasoning and problem-solving skills.

***POST  
INTERMEDIATE  
MODULE***  

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***(FCPS-II)***

## SYLLABUS

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The syllabus for advance phase (FCPS-II) in Operative Dentistry and Endodontics includes indirect restorations, dental implants, medico-legal and ethical implications and recent developments in the specialty through journal updates as well as topics that require more complex level of problem solving.

### OPERATIVE DENTISTRY

- Clinical significance of dental anatomy, histology and physiology of enamel, dentin, pulp and cementum as well as the supporting tissues of bone and gingiva.
- Importance of dental occlusion in Operative Dentistry
- Dental caries
- Patient evaluation, examination, diagnosis and problem oriented treatment planning
- Esthetic considerations in diagnosis & treatment planning
- Sterilization and cross infection control
- Pain control in Operative Dentistry and Endodontics
- Dental biomaterials
  - Physical, mechanical and optical properties of dental Materials
  - Zinc oxide eugenol
  - Calcium hydroxide
  - Zinc phosphate
  - Polycarboxylate cement
  - Glass ionomer cements
  - Resin-modified glass ionomer (RMGI) cements
  - Calcium silicate based cements
  - Bioceramics
  - Dental ceramics
  - Silver amalgam
  - Composite resins
- Classification, ideal properties and manipulation of Impression materials
- Instruments and equipment for tooth preparation
- Preliminary considerations for Operative Dentistry
- Dentin hypersensitivity
- Periodontal restorative inter-relationship
- Fundamental of tooth preparation and pulp protection

- Clinical technique for amalgam restorations
- Complex amalgam restorations
- Fundamental concept of enamel and dentin adhesion
- Direct anterior restorations
- Direct posterior aesthetic restorations
- Aesthetic dentistry
- Diagnosis and treatment of root caries
- Natural tooth bleaching
- Porcelain veneers
- Anterior ceramic veneers
- Esthetic inlay and onlays
- Non carious lesions and their management
- Digital dentistry in Operative Dentistry
- Lasers in Operative Dentistry
- Class-II cast metal restorations
- Direct gold restorations
- Resin-bonded splints and bridges

## **ENDODONTICS**

- Structure and functions of the dentin-pulp complex
- Microbiology of endodontic infections
- Pathobiology of apical periodontitis
- Comprehensive diagnosis and treatment planning
- Prevention of dental disease
- Sedation, local and general anesthesia
- Dental radiography and radiographic interpretation
- Pharmacology and therapeutics
- Management of medically/clinically compromised patients
- Communication, interpersonal skills and team leadership
- Pulp reactions to caries and dental procedure
- Diagnosis and management of pulpal periapical disease
- Diagnosis and management of orofacial pain, psychogenic pain and TMD
- Lesions that mimic endodontic pathosis
- Diagnosis and management of dento-alveolar infections and sequelae
- Diagnosis and management of endo-perio lesions
- Teeth morphology, anatomy, pulp morphology, and morphological anomalies

- Isolation, access preparation and working length determination
- Cleaning and shaping of the root canal system
- Obturation of the cleaned and shaped root canal system
- Bleaching procedures
- Assessment and management of teeth which have previously undergone endodontic treatment
- Surgical endodontics
- Management of traumatic injuries to teeth
- Regenerative endodontics
- Vital pulp therapy
- Root resorption
- Management of endodontic emergencies
- Managing iatrogenic events
- Chronic cracks and fractures
- Endodontic records and legal responsibilities
- Key principles of endodontic practice management
- Systemic health considerations in the endodontic patient and geriatric endodontics
- Lasers in endodontics.
- Magnification in endodontics
- Evidence-based endodontics
- Review and maintenance procedures
- Endodontic and periodontal interrelationships
- The orthodontic/endodontic interface
- Restoration of endodontically treated teeth
- Techniques of case documentation
- Evaluation of treatment outcomes

## **PAEDODONTICS**

- Craniofacial growth and development
- Introduction to dental office
- History, examination, risk assessment & treatment planning
- Safeguarding children
- Management of pain and anxiety
- Local anesthesia for children
- Diagnosis and prevention of dental caries
- Treatment of dental caries in the preschool child
- Operative treatment of dental caries in the primary dentition

- Operative treatment of dental caries in the young permanent dentition
- Advanced restorative dentistry
- Traumatic injuries to the teeth
- Anomalies of tooth formation and eruption
- Extraction in the primary dentition
- Space maintenance in the primary dentition
- Management of congenitally missing lateral incisor
- Enforced extraction of first permanent molars
- Retained primary teeth
- Infra-occluded primary teeth
- Management of medically compromised children

### **INDIRECT RESTORATIONS**

- History taking and clinical examination
- Treatment planning
- Principles of occlusion
- Periodontal considerations
- Mouth preparations
- Principles of tooth preparation
- Principles of bridge design
- Complete cast crown, metal ceramic and all ceramic preparation
- Partial veneer crowns, inlay and onlay preparations
- Implant supported fixed prosthesis
- Tissue management and impression making
- Interim fixed restorations
- Evaluation, luting agents and cementation procedures
- Postoperative care

### **DENTAL IMPLANTS**

- Theory and clinical practice of dental implants

## CORE COMPETENCIES

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The procedural competencies, a specialist must have, are varied and complex. A list of core procedural competencies is given below. The level of competencies to be achieved each year is specified according to the given key:

### **Levels of competencies:**

1. Observer Status.
2. Assistant Status.
3. Performed Under Supervision.
4. Performed Independently

COMPETENCIES	THIRD YEAR										Total # of Cases
	27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS		Cases		
	Level	Cases	Level	Cases	Level	Cases	Level	Cases			
HISTORY TAKING											
PERFORMING CLINICAL EXAMINATION											
ORDERING APPROPRIATE INVESTIGATIONS AND CORRECT INTERPRETATIONS	4	5	4	5	4	5	4	5	4	5	20
FORMULATING A WORKING DIAGNOSIS											
DEVISING TREATMENT PLAN	4	5	4	5	4	5	4	5	4	5	20
OPERATIVE DENTISTRY											
PERFORMING CARIES RISK ASSESSMENTS	3	5	4	5	4	5	4	5	4	5	20
COMMUNICATING DIETARY ADVICE AND ORAL HYGIENE INSTRUCTIONS	3	5	4	5	4	5	4	5	4	5	20
DIAGNOSING CARIOUS LESIONS	3	5	4	5	4	5	4	5	4	5	20
PROVIDING ADEQUATE PAIN CONTROL	3	5	4	5	4	5	4	10	4	10	30
PREPARES AND RESTORES CARIOUS LESIONS											
AMALGAM RESTORATIONS	3	5	4	5	4	5	4	5	4	5	20
COMPLEX AMALGAM RESTORATIONS	3	2	4	3	4	3	4	5	4	5	15
ANTERIOR COMPOSITE RESTORATIONS	3	2	4	3	4	3	4	5	4	5	15
POSTERIOR COMPOSITE RESTORATIONS	3	2	4	3	4	3	4	5	4	5	15
GIC RESTORATIONS /COMPOMERS/RMGIC	4	2	4	3	4	3	4	5	4	5	15

COMPETENCIES	THIRD YEAR								Total # of Cases
	27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS		
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
INDIRECT RESTORATIONS									
INLAYS	1	3	1	3	2	2	3	2	10
• AESTHETIC									
• CAST METAL									
ONLAYS	1	3	1	3	2	2	3	2	10
• AESTHETIC									
• CAST METAL									
VENEERS	1	3	1	3	2	2	3	2	10
PERFORMS VITAL BLEACHING	1	2	1	2	2	1	2	1	6
MANAGES ANTERIOR TOOTH WEAR	1	1	1	1	2	1	2	1	4
MANAGES POSTERIOR TOOTH WEAR	1	1	1	1	2	1	2	1	4
MANAGES GENERALIZED TOOTH WEAR	1	1	1	1	2	1	2	1	4
FULL MOUTH REHABILITATION	1	1	1	1	2	1	2	2	5
PATIENT RECORD MANAGEMENT & TIME MANAGEMENT	4	3	4	3	4	4	4	5	15
ENDODONTICS									
HISTORY TAKING									
PERFORMING CLINICAL EXAMINATION									
ORDERING APPROPRIATE INVESTIGATIONS AND CORRECT INTERPRETATIONS	3	2	4	3	4	5	4	5	15
FORMULATING A WORKING DIAGNOSIS									
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR VITAL MULTI ROOTED TEETH	3	5	4	5	4	5	4	5	20

COMPETENCIES		THIRD YEAR								Total # of Cases
		27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL SINGLE ROOTED TEETH		3	5	4	5	4	5	4	5	20
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL MULTI ROOTED TEETH		3	5	4	5	4	5	4	5	20
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR SINGLE ROOTED TEETH		3	5	4	5	4	5	4	5	20
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH		2	3	4	3	3	3	4	3	12
PERFORMING SINGLE VISIT ENDODONTIC TREATMENT		2	3	4	3	3	3	4	3	12
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR SINGLE ROOTED TEETH		2	5	3	5	3	2	4	3	15
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH		1	2	2	2	3	2	4	2	8
RESTORING ENDODONTICALLY TREATED TEETH		3	5	4	5	4	5	4	5	20
CARRYING OUT APEXGENESIS/ VITAL PULP THERAPY		3	3	4	3	3	2	4	2	10
PERFORMING APEXIFICATION		3	3	4	3	3	2	4	2	10
PERFORMING ENDODONTIC PROCEDURES UNDER APPROPRIATE MAGNIFICATION/OPERATING MICROSCOPE		1	2	2	2	3	2	4	1	7
NON VITAL BLEACHING		2	2	3	2	3	2	4	2	8
SPLINTING TEETH		2	2	3	2	3	2	4	2	8
MANAGING MEDICALLY COMPROMISED PATIENTS		-	-	-	-	2	2	3	2	4
CARRYING OUT REVASCULARIZATION/ REGENERATION		-	-	-	-	2	2	3	2	4

COMPETENCIES		THIRD YEAR										Total # of Cases
		27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS				
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
PAEDODONTICS												
SEALING PITS AND FISSURE	4	2	4	3	4	4	5	4	5	15		
CARRYING OUT PREVENTIVE RESIN RESTORATIONS	4	2	4	3	4	4	5	4	5	15		
PERFORMING VITAL PULPOTOMY	4	2	4	2	4	4	2	4	2	8		
PERFORMING ROOT CANAL TREATMENT OF DECIDUOUS TEETH	4	2	4	3	4	4	5	4	5	15		
PERFORMING STAINLESS STEEL CROWNS	-	-	-	-	1	2	2	2	2	4		
MAKING SPACE MAINTAINERS	-	-	-	-	1	2	2	2	2	4		
IMPLANTOLOGY												
CARRYING OUT DENTAL IMPLANTS	-	-	-	-	1	1	1	2	1	2		

## ROTATIONS

ROTATIONS		PROSTHODONTICS (2 MONTHS) 3 <sup>RD</sup> YEAR								TOTAL # OF CASES
		2 WEEKS		2 WEEKS		2 WEEKS		2 WEEKS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
HISTORY TAKING AND CLINICAL EXAMINATION ORDERING APPROPRIATE INVESTIGATIONS AND CORRECT INTERPRETATIONS FORMULATING A WORKING DIAGNOSIS AND TREATMENT PLANNING	1	3	2	3	3	4	3	12		
	1	3	2	3	3	4	3	12		
	1	1	2	1	3	4	1	O4		
	1	1	2	1	3	4	1	O4		
	1	1	2	1	3	4	1	O4		
	1	1	2	1	3	4	1	O4		
	1	1	2	1	3	4	1	O4		
	1	1	2	1	3	4	1	O4		
	1	3	2	3	3	4	3	12		
	1	3	2	3	3	4	3	12		

COMPETENCIES	FOURTH YEAR								Total # of Cases
	27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS		
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
HISTORY TAKING									
PERFORMING CLINICAL EXAMINATION									
ORDERING APPROPRIATE INVESTIGATIONS AND CORRECT INTERPRETATIONS	4	5	4	5	4	5	4	5	20
FORMULATING A WORKING DIAGNOSIS									
DEVISING TREATMENT PLAN	4	5	4	5	4	5	4	5	20
OPERATIVE DENTISTRY									
PERFORMING CARIES RISK ASSESSMENTS	4	5	4	5	4	5	4	5	20
COMMUNICATING DIETARY ADVICE AND ORAL HYGIENE INSTRUCTIONS	4	5	4	5	4	5	4	5	20
DIAGNOSING CARIOUS LESIONS	4	5	4	5	4	5	4	5	20
PROVIDING ADEQUATE PAIN CONTROL	4	5	4	5	4	10	4	10	30
PREPARES AND RESTORES CARIOUS LESIONS									
AMALGAM RESTORATIONS	4	5	4	5	4	5	4	5	20
COMPLEX AMALGAM RESTORATIONS	4	2	4	3	4	5	4	5	15
ANTERIOR COMPOSITE RESTORATIONS	4	2	4	3	4	5	4	5	15
POSTERIOR COMPOSITE RESTORATIONS	4	2	4	3	4	5	4	5	15
GIC RESTORATIONS /COMPOMERS/RMGIC	4	2	4	3	4	5	4	5	15

COMPETENCIES	FOURTH YEAR								Total # of Cases
	27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS		
	Level	Cases	Level	Cases	Level	Cases	Level	Cases	
INDIRECT RESTORATIONS									
INLAYS	3	3	4	3	4	2	4	2	10
• AESTHETIC									
• CAST METAL									
ONLAYS									
• AESTHETIC	3	3	4	3	4	2	4	2	10
• CAST METAL									
VENEERS									
ENDO CROWNS	3	3	4	3	4	2	4	2	10
PERFORMS VITAL BLEACHING	1	1	2	1	3	2	4	4	8
MANAGES ANTERIOR TOOTH WEAR	1	1	2	1	3	2	4	2	6
MANAGES POSTERIOR TOOTH WEAR	2	1	2	1	3	1	4	1	4
MANAGES GENERALIZED TOOTH WEAR	1	1	2	1	3	1	4	1	4
FULL MOUTH REHABILITATION	1	1	2	1	3	1	4	1	4
PATIENT RECORD MANAGEMENT & TIME MANAGEMENT	1	1	2	1	3	1	4	1	4
ENDODONTICS	4	3	4	3	4	4	4	5	15
HISTORY TAKING									
PERFORMING CLINICAL EXAMINATION									
ORDERING APPROPRIATE INVESTIGATIONS AND CORRECT INTERPRETATIONS	4	2	4	3	4	5	4	5	15
FORMULATING A WORKING DIAGNOSIS									

COMPETENCIES		FOURTH YEAR										Total # of Cases
		27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS				
		Level	Cases	Level	Cases	Level	Cases	Level	Cases			
PERFORMING ENDODONTIC PROCEDURES UNDER APPROPRIATE MAGNIFICATION/OPERATING MICROSCOPE  NON VITAL BLEACHING  SPLINTING TEETH  <b>PAEDODONTICS</b>  SEALING PITS AND FISSURE  CARRYING OUT PREVENTIVE RESIN RESTORATIONS  PERFORMING VITAL PULPOTOMY  PERFORMING ROOT CANAL TREATMENT OF DECIDUOUS TEETH  PERFORMING STAINLESS STEEL CROWNS  MAKING SPACE MAINTAINERS  <b>IMPLANTOLOGY</b>  CARRYING OUT DENTAL IMPLANTS		4	3	4	3	3	2	4	2	10		
		2	2	3	2	4	2	4	2	8		
		2	2	3	2	4	2	4	2	8		
		4	2	4	3	4	5	4	5	15		
		4	2	4	3	4	5	4	5	15		
		4	2	4	2	4	2	4	2	8		
		4	2	4	3	4	5	4	5	15		
		2	2	3	2	4	2	4	2	8		
		2	2	3	2	4	2	4	2	8		
		1	2	2	2	3	2	4	4	10		

COMPETENCIES		FOURTH YEAR								Total # of Cases
		27 MONTHS		30 MONTHS		33 MONTHS		36 MONTHS		
		Level	Cases	Level	Cases	Level	Cases	Level	Cases	
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR VITAL MULTI ROOTED TEETH		4	5	4	5	4	5	4	5	20
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL SINGLE ROOTED TEETH		4	5	4	5	4	5	4	5	20
PERFORMING NON-SURGICAL ROOT CANAL TREATMENT FOR NON-VITAL MULTI ROOTED TEETH		3	3	4	3	4	3	4	3	12
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR SINGLE ROOTED TEETH		3	3	4	3	4	3	4	3	12
PERFORMING NON-SURGICAL RE-ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH		3	2	4	3	4	5	4	5	15
PERFORMING SINGLE VISIT ENDODONTIC TREATMENT										
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR SINGLE ROOTED TEETH		2	2	3	2	4	2	4	2	8
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH		2	2	3	2	4	1	4	1	6
PERFORMING SURGICAL ROOT CANAL TREATMENT FOR MULTI ROOTED TEETH		4	5	4	5	4	5	4	5	20
USING APPROPRIATE MAGNIFICATION/OPERATING MICROSCOPE		4	3	4	3	3	2	4	2	10
RESTORING ENDODONTIC ALLY TREATED TEETH										
CARRYING OUT APEXGENESIS/ VITAL PULP THERAPY		4	3	4	3	3	2	4	2	10
PERFORMING APEXIFICATION		3	2	4	2	4	2	4	2	8

## ASSESSMENT

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### **FORMATIVE ASSESSMENT:**

College of Physicians and Surgeons Pakistan, in order to implement competency based education in letter and spirit, is introducing Work Placed Based Assessment (WPBA) in addition to institutional/ departmental assessments. To begin with college is introducing Mini-CEX and DOPS to ensure that the graduates are fully equipped with the clinical competencies.

### **Mini Clinical Evaluation Exercise (Mini-CEX)**

During training in Operative Dentistry and Endodontics, at least one Mini-CEX in each quarter is to be conducted from the list given below.

- Mini-CEX is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each Mini-CEX encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- All topics given below are to be covered.
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form (sample given below)

### **Topics for Mini-CEX**

- Chronic Cracks & Fractures
- Tooth Resorption
- Medically Compromised Patients
- Indirect Restoration
- Tooth Surface Loss
- Peri-radicular Surgical cases
- Full Mouth Rehabilitation cases
- Endodontically Treated Teeth
- Patients requiring Dental Implants

***Each Mini-CEX encounter should focus upon History-taking & Clinical Examination***



## MINI CLINICAL EVALUATION EXERCISE (CEX)

### FCPS: OPERATIVE DENTISTRY AND ENDODONTICS

Time Duration = 20 minutes (15 minutes assessment and 5 minutes feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: \_\_\_\_\_ Assessment Date: \_\_\_\_\_

Resident's Name: \_\_\_\_\_

Hospital Name: \_\_\_\_\_ R&RC Number: \_\_\_\_\_

Year of Residency: ☐ R1 ☐ R2 ☐ R3 ☐ R4

Quarter: ☐ 1st ☐ 2<sup>nd</sup> ☐ 3<sup>rd</sup> ☐ 4<sup>th</sup>

Setting: ☐ Ward ☐ Other: \_\_\_\_\_

Diagnosis of Patient: \_\_\_\_\_ Patient Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Clinical Area: \_\_\_\_\_

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Focus of Clinical Encounters:

☐ History Taking ☐ Oral Examination ☐ Communication Skills ☐ Management ☐ Other: \_\_\_\_\_

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2	3	4	5
Informed Consent of patient						
Interviewing Skills						
Systematic Progression						
Presentation of positive & significant negative findings						
Justification of actions						
Professionalism						
Organization/Efficiency						
Overall Clinical Competence						

Assessor's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with Mini-CEX:

(Low) 1 2 3 4 5 (High)

Strengths	Suggestions for Improvement

Encounter to be repeated ☐ YES ☐ NO

Signature \_\_\_\_\_

## **Direct Observation of Procedural Skills (DOPS)**

During training in Operative Dentistry and Endodontics, at least one DOPS in each quarter is to be conducted from the list given below.

- DOPS is entirely a formative tool of assessment and is to be accompanied with constructive feedback
- Each DOPS encounter extends for about 20 minutes with 05 minutes for feedback and further action plan
- In case of unsatisfactory performance of the resident, a remedial has to be completed within stipulated time frame
- All topics/procedures given below are to be covered
- Non-compliance by the resident has to be reported in quarterly feedback.
- The performance is reported online on the prescribed form (sample given below)

### **Topics/Procedures for DOPS**

- Crown Preparation
- Endodontic Retreatment
- Stainless Steel Crown
- Apexogenesis / Apexification
- Regenerative Endodontics
- Endodontic Microsurgery / Peri-Radicular Surgery
- Indirect Restoration / Veneer
- Dental Implant



## DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS)

FCPS: OPERATIVE DENTISTRY AND ENDODONTICS

Time Duration = 20 minutes (15 minutes assessment and 5 minutes feedback)

PLEASE COMPLETE THE QUESTIONNAIRE BY FILLING/CHECKING APPROPRIATE BOXES

Assessor: \_\_\_\_\_ Assessment Date: \_\_\_\_\_

Resident's Name: \_\_\_\_\_

Hospital Name: \_\_\_\_\_ R&RC Number: \_\_\_\_\_

Year of Residency: ☐ R1 ☐ R2 ☐ R3 ☐ R4

Quarter: ☐ 1st ☐ 2nd ☐ 3rd ☐ 4th

Setting: ☐ Ward Other: \_\_\_\_\_

Diagnosis of Patient: \_\_\_\_\_ Patient Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Name of Procedure: \_\_\_\_\_

Complexity of Case/ Procedure: ☐ Low/Easy ☐ Moderate/Average ☐ High/Difficult ☐ N/A

Number of times procedure performed by Resident: \_\_\_\_\_

Please grade the following areas on the given scale:	Not Observed / Applicable	Below Expectations		Satisfactory	Above Expectation	Excellent
		1	2			
Indications, anatomy & steps of procedure						
Informed consent, with explanation of procedure and complications						
Preparation for procedure						
Use of local anesthesia						
Observance of asepsis						
Safe use of instruments						
Use of accepted techniques						
Management of unexpected event (or seeks help)						
Post-procedure instructions to patient and staff						
Professionalism						
Overall ability to perform whole procedure						

Assessor's Satisfaction with DOPS:

(Low) 1 2 3 4 5 (High)

Resident's Satisfaction with DOPS:

(Low) 1 2 3 4 5 (High)

Strengths	Suggestions for Improvement

Encounter to be repeated ☐ YES ☐ NO

Signature \_\_\_\_\_

## **GUIDELINES FOR PROCEDURE-SPECIFIC DOPS ASSESSMENT**

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### **APEXIFICATION**

#### *Accepted Techniques*

- Case selection
- Rubber Dam Application
- Access cavity preparation
- Working length determination
- Apical Plug formation (Material)
- Apical Plug formation (Length)
- Obturation technique
- Quality of obturation
- Post-operative radiograph

### **ENDODONTIC RETREATMENT**

#### *Accepted Techniques*

- Rubber Dam Application
- Coronal Disassembly / Access cavity preparation
- Root Canal location
- Removal of old obturation
- Selection of Initial Apical File (IAF)
- Working length determination
- MAF determination
- Root Canal preparation technique
- Restoration

### **STAINLESS STEEL CROWN**

#### *Accepted Techniques*

- Case selection
- Crown selection
- Tooth preparation
- Crown adjustment
- Crown seating
- Crown cementation

## **CROWN PREPARATION**

### *Accepted Techniques*

- Buccal/labial reduction
- Occlusal reduction
- Proximal reduction
- Preparation of cervical margin
- Smooth preparation with no sharp line angles
- Shade selection
- Impression taking
- Temporization

## **VENEER PREPARATION**

### *Accepted Techniques*

- Preparation of labial surface
- Preparation of interproximal surface
- Palatal extensions
- Cervical margin preparation
- Smooth preparation of enamel with no sharp line angles
- Shade selection
- Impression taking
- Temporization

## **REGENERATIVE ENDODONTICS**

### *Accepted Techniques*

#### **\*First Appointment**

- Case selection
- Rubber Dam Application
- Access cavity preparation
- Working length determination
- Copious, gentle irrigation
- Placement of calcium hydroxide or triple antibiotic paste
- Seal with 3-4 mm of restorative material

#### **\*Second Appointment (1 to 4 weeks after 1st visit)**

- Assessing response to initial treatment
- Inducing blood into canal or use of PRP, PRF or AFM
- Placement of resorbable collagen matrix over the blood clot
- Placement of calcium silicate based material or bioceramics in 3mm thickness
- Use of restorative material
- Follow up (6, 12, 24 months) clinically and radiographically

## **ENDODONTIC MICROSURGERY / PERI-RADICULAR SURGERY**

### *Accepted Techniques*

- Case selection
- Use of proper surgical incision
- Use of illumination and magnification
- Use of micro instruments
- Proper osteotomy size
- Shallow (0-10 degree) Bevel angle
- Root end preparation parallel to long axis of tooth
- Depth of root end preparation (3mm axial)
- Inspection of resected root surface
- Root end restorative material
- Suture
- Follow up clinically and radiographically

## **DENTAL IMPLANT**

### *Accepted Techniques*

- Case selection
- Soft tissue incision/ soft tissue punch in case of flapless
- Surgical guide template
- Osteotomy / Preparation of the implant site
- Implant placement
- GBR if needed
- Primary closure
- Radiograph taken to evaluate position of implant in relation to adjacent structures and relative to teeth or other implants
- Shade selection
- Impression taking
- Abutment level/ fixture Level
- Placement of implant crown (Screw retained crown/ Cemented crown )
- Follow up (0, 1,3,6,12 and then yearly ) clinically and radiographically

## **SUMMATIVE ASSESSMENT:**

### **ELIGIBILITY REQUIREMENTS FOR FCPS-II EXAMINATION**

The eligibility requirements for appearing in FCPS-II are:

- Passed FCPS-I in Dentistry or granted exemption from FCPS-I by CPSP as per rules.
- To have undertaken four years of the specified training in Operative Dentistry and Endodontics all of which should be after passing FCPS-I in an institution recognized by the CPSP.
- Passed IMM examination in Operative Dentistry and Endodontics.
- Completion of entries in e-logbook along with validation by the supervisor.
- Certificate of approval of dissertation or acceptance of two research papers in CPSP approved journal(s).
- Certificate of attendance of mandatory workshops.

### **EXAMINATION SCHEDULE**

- The FCPS-II theory examination will be held twice a year (subject to number of eligible candidates).
- Theory examinations are held in various cities of the country usually at Abbottabad, Bahawalpur, Faisalabad, Hyderabad, Islamabad, Karachi, Nawabshah, Lahore, Larkana, Multan, Peshawar and Quetta centres. The College shall decide where to hold TOACS examination depending on the number of candidates in a city and shall inform the candidates accordingly.
- English shall be the medium of examination for the theory/ practical/ clinical and viva examinations.
- The College will notify of any change in the centres, the dates and format of the examination.
- A competent authority appointed by the College has the power to debar any candidate from any examination if it is satisfied that such a candidate is not a fit person to take the College examination because of using unfair means in the examination, misconduct or other disciplinary reasons.

## EXAMINATION FEES

- Fees deposited for a particular examination shall not be carried over to the next examination in case of withdrawal/absence/exclusion.
- Applications along with the prescribed examination fees and required documents must be submitted by the last date notified for this purpose before each examination.
- The details of examination fee & fees for change of centre, subject, etc. shall be notified before each examination.

## REFUND OF FEES

If, after submitting an application for examination, a resident decides not to appear, a written request for a refund must be submitted before the last date for withdrawal with the receipt of applications. In such cases a refund is admissible to the extent of 75% of fees only. No request for refund will be accepted after the closing date for receipt of applications. If an application is rejected by the CPSP, 75% of the examination fee will be refunded, the remaining 25% being retained as a processing charge. No refund will be made for fees paid for any other reason, e.g. late fee, change of centre/subject fee, etc.

## FORMAT OF EXAMINATIONS

Every candidate applying for the fellowship of the College of Physicians and Surgeons Pakistan must pass both parts of the Fellowship examination unless exemption is approved. Since the College is continually seeking to improve its examinations, changes are likely from time to time and candidates will be notified in advance of such changes.

### PART-I THEORY EXAMINATION

**Paper-I:** 10 Short Answer Questions (SAQs)

**Paper-II:** 100 Single Best Type of MCQs

### PART-II CLINICAL EXAMINATION

The Clinical section comprises of two components:

- **First Component:**  
TOACS  
(Applicable from October 2022 examination.)

- **Second Component:**
  - One Long Case
  - Four Short Cases in the form of fully documented clinical case histories of candidates' own treated cases (Applicable from July 2021 inductions).

Only those candidates who pass through TOACS examination will be allowed to appear in the remaining components of clinical examination.

### **FORMAT OF TOACS**

The number of stations will range from 10-15. All stations are required to be "Interactive". At these stations, the candidates will be required to perform a task, for example, taking history, performing clinical examination, counseling, assembling an instrument or any other task. One examiner will be present at each interactive station and will rate the performance of the candidate and ask questions testing critical thinking and problem-solving skills.

### **FORMAT OF LONG CASE**

Each candidate will be allotted one long case and allowed 30 minutes for history taking and clinical examination. Candidates should take a careful history from the patient (or relative) and after a thorough physical examination identify the problems which the patient presents with. During the period a pair of examiners will observe the candidate. In this section the candidates will be assessed on the following areas:

#### **Interviewing Skills**

- Introduces one self. Listens patiently and is polite with the patient.
- Is able to extract relevant information.

#### **Clinical Examination Skills**

- Takes informed consent
- Uses correct clinical methods in a systematic manner (including appropriate exposure and re-draping).

## **Case Presentation / Discussion**

- Presents skillfully
- Gives correct findings
- Gives logical interpretations of findings and discusses differential diagnosis.
- Enumerates and justifies relevant investigations.
- Outlines and justifies treatment plan (including rehabilitation).
- Discusses prevention and prognosis.
- Has knowledge of recent advances relevant to the case.
- During case discussion the candidate may ask the examiners for laboratory investigations which shall be provided, if available. Even if they are not available and are relevant, candidates will receive credit for the suggestion.

## **FORMAT OF SHORT CASES (CANDIDATES' OWN DOCUMENTED CLINICAL CASES)**

The Candidate will have to bring to the exam printed hard copies of five fully documented clinical cases which have already been uploaded on the e-log (as per the instructions and templates given on the Candidates' e-log) at least 30 days prior to the exam.

The cases will be of the following variety and must be documented in the same numerical order as given below:

### ***Case-1: Nonsurgical Root Canal Treatment - Maxillary Molar***

Nonsurgical root canal treatment, including cases with calcified canals, curved/long canals, unusual anatomy, etc.

### ***Case-2: Nonsurgical Retreatment - Maxillary or Mandibular Molar***

This requires removal of previous obturating materials from the canal(s) of the tooth.

### ***Case-3: Periradicular Surgery - Anterior Tooth***

Maxillary or Mandibular anterior tooth. Periapical Surgery with Root-end Resection and Root-end filling is required (A biopsy report is optional). Intentional replantation cases will not be acceptable in this category.

#### ***Case-4: Aesthetic Dentistry***

Direct composite diastema closure / Anterior direct veneers / indirect veneers / anterior ceramic crowns. This case must cover minimum two teeth in the same arch. The case should include a smile analysis and diagnostic wax-up. Different treatment options should be discussed with the patient, with justification of the reason for choosing the option.

#### ***Case-5: Oral Rehabilitation***

This should be multidisciplinary case that must exhibit post procedure outcomes of Operative Dentistry and Endodontics, Periodontics along with fixed prosthodontics (minimum 6 units with or without implants).

There will be one-year post-treatment follow up for all the cases.

The assessment will be in four cases of examiner's choice.

Candidate will be examined by a pair of examiners. During the examination, the candidate will be assessed on:

- Quality of records including documented case histories
- Treatment protocols followed
- Followup of the cases
- Answers of questions asked by the Examiners

**NOTE:** The resident is required to fill a self-explanatory 'feedback proforma' at the end of the examination.

## SUGGESTED LEARNING RESOURCES

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### Text Books

- Sturdevant's Art and Science of Operative Dentistry
- Summit's Fundamental of Operative Dentistry
- Endodontics Principles and Practice by Mahmoud Torabinejad
- Cohen's Pathways of the Pulp
- Problem solving in Endodontics by James L. Guttman
- Paediatric Dentistry by Richard Welbury
- Contemporary Fixed Prosthodontics by Rosenstiel
- Palmer's Implants in Clinical Dentistry
- Reader, Nusstein, Drum: Successful local anesthesia for restorative dentistry and endodontics
- Little and falace: Dental management of medically compromised patients.

### Reference Books

- Ingle's Endodontics
- Paediatric dentistry Infancy through adolescence by Arthur J. Nowak
- Fundamental of fixed Prosthodontics by Herbert T. Shillingburg
- Misch's contemporary implant dentistry
- Carranza's Clinical Periodontology
- Phillips' Science of Dental Materials.
- Dental Caries: The Disease and its Clinical Management. by Ole Fejerskov, BenteNyvad and Edwina Kidd.
- Kim and Kratchman: Microsurgery in endodontics.
- Hand book of local anesthesia by Stanley F. Malamed
- Essentials of Dental Radiography& Radiology by Frickwhaites
- Odell's Clinical problem solving in dentistry
- Clinical Problem Solving in Orthodontics and Paediatric Dentistry by Declan
- Millett
- Any other relevant books

## **Journals**

- Journal of Endodontics
- International endodontic Journal
- Dental Clinics of North America
- Dental Update
- Clinical series of British Dental Journal relative to Operative Dentistry and Endodontics

### **Note:**

***The journals published 3 years prior to the date of exam will be included in examinations***

## **THE COLLEGE RESERVES THE RIGHT TO ALTER/AMEND ANY RULES/REGULATIONS**

Any decision taken by the College on the interpretation of these regulations will be binding on the applicant.

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