DEPARTMENT OF PEDIATRIC DENTISTRY

STUDY GUIDES

CIMS Dental College Multan

Revised in 2025

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INTRODUCTION

Pediatric dentistry is an age-defined discipline that provides preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs. Pediatric dentistry encompasses a variety of techniques, procedures, and skills that share a common basis with other specialties, but are modified and adapted to the unique requirements of infants, children, and adolescents. Being an age-specific specialty, pediatric dentistry includes areas such as behavior guidance, care of medically and developmentally compromised patients, supervision of oro-facial growth & and development, caries prevention and treatment, dental treatment under sedation, and general anesthesia. These skills are applied to the needs of children throughout their ever-changing stages of development. The concept of comprehensive care will be adapted so that the students develop an awareness of and appreciation for total child care. Peadontics is a major subject of final professional BDS.

1.DEPARTMENTAL MISSION VISION IN LINE WITH Institutional Mission Vision:

To train Bachelor of Dental Surgery (BDS) undergraduate students to provide primary preventive and restorative care to the pediatric population that currently constitutes more than 40% of our country's population and, whose oral/dental health needs have historically been neglected, that is consistent with the institutional mission Pedodontics is taught.

2.LEARNING OUTCOMES OF SUBJECT IN CONTINUTY TO DEPARTMENTAL MISSION VISSON

At the end of the course, students will be able to recognize diagnose, treat diseases of teeth supporting structure and rehabilitate to functional and esthetic purposes of the individuals.

3.OUTCOMES OF THE TOPICS :

As mentioned below in TOS the students will be able to

- To manage different dental diseases affecting dental. pediatric dental patients
- List different child's behavioral management techniques
- Select a proper pulp therapy related to their different clinical cases
- Demonstrate the use of different restorative procedures such as tooth-color restoration, amalgam, and Stainless steel crown restorations Identify the most common dental problems in Pakistan example; dental caries, periodontal diseases, and dental trauma
- Demonstrate the ability to manage the consequences of early loss of primary teeth using different space maintainers
- Labels different dental conditions in relation to systemic diseases, special needs, and infectious diseases.
- Find suitable treatment modulations for advanced dental problems
- Identify and treat uncooperative children using different behavioral management techniques.
- Demonstrate effective self-management and planning.

Demonstrate manual dexterity to perform an advanced pediatric dental clinical case.

4. RESOURCES

Teaching Staff:

	Faculty Name	Designation
1	**Dr. Kauser Parveen**	**Assistant Professor** **BDS. MCPS. Operative Dentistry** **CHPE**
2	**Dr. Wajeeha Ismaeel**	**Demonstrator** **BDS**
3	**Dr Laila**	**Demonstrator** **BDS**
4	**Dr Talha**	**Demonstrator** **BDS**

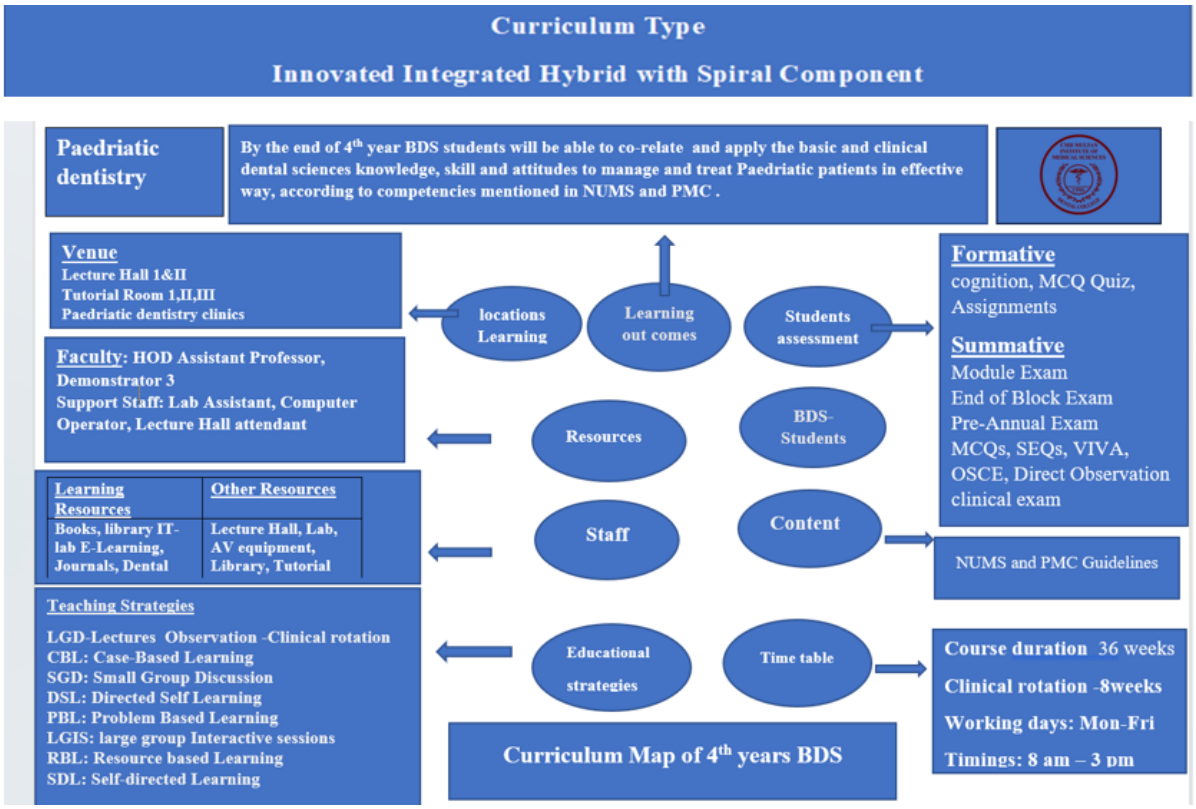
Supporting Staff:

1	**Dental surgery Assistant**	**2**
2	**Dental surgery Technician**	**2**

INFRASTRUCTTURE

1	Operating hall	1
2	Dental units with stools	5
3	Demonstrator room	1
4	Dental materials	Annex
5	Reception	1
6	Departmental Library/CIMS Library E-library	2

5. Curriculum Map of Pediatric dentistry:



TEACHING AND LEARNING STRATEGIES

Multiple educational methods will be used including self-study LGD-lectures SDL, Interactive lectures, Case-based learning CBL, small group discussions, SGD, and practical, and manual Log book, dexterity skill sessions. Problem-based learning PBL.

Method of achieving knowledge

Interactive, integrated lectures.

Case Base learning CBL Problem-based learning PBL.

Self-study, Self-directed learning SDL.

Small group discussion SGD.

Methods of Achieving Skills

Hands-on training in practical and clinical chairside training. evaluated on rubric

Behaviour management parents and children dental health education

Clinical training, working under direct supervision /Hands-on.

Diagnosis, writing history taking, and treatment plan.

Caries Preventive and restorative techniques oral hygiene instruction, Topical Fluoride application placing sealants, atraumatic restorative techniques and steel crowns in pediatrics.

Methods of Achieving Attitudes

Oral presentation by individual students

Working in a group

Roleplay

Clinical Case presentation

Child, s Behavior management (Non pharmacological)

Parent's counseling (getting consent and filling the form)

COMPETENCIES

The following basic competencies apply to the subject of Pediatric Dentistry.

- Comprehensive management
- Communication ability with the children and parents
- Pain control.
- Professionalism
- Manual dexterity
- Critical appraisal

COMPETENCIES EVALUATION RUBRIC

Mentioned in log Book .

LEARNING OUTCOMES

The main learning outcomes for students were enrolled in the course.

knowledge

At the end of the course, students will be able to:

- Recognize different dental diseases affecting pediatric dental patients
- Lists different child's behavioral management techniques
- Select a proper pulp therapy related to their different clinical cases
- Demonstrate the use of different restorative procedures such as tooth-color restoration, amalgam, and Stainless steel crown restorations Identify the most common dental problems in Pakistan example; dental caries, periodontal diseases, and dental trauma developmental anomalies dental trauma and oral habits.
- Demonstrate the ability to manage the consequences of early loss of primary teeth using different space maintainers
- Labels different dental conditions in relation to systemic diseases, special needs, and infectious diseases.

Cognitive skills to be developed

- Treat and provide comprehensive dental treatment for children aged 0-12 years
- Utilize problem-solving and decision-making to provide a comprehensive pediatric treatment planning
- Interprets children with a medical condition and referral for further need.
- Utilize their background in the diagnosis of different oral diseases.
- Determine community oral health for children's needs and develop creative solutions to address them.

Interpersonal Skills and Responsibility

Description of the interpersonal skills and capacity to carry the responsibility to be developed

- Demonstrate effective self-management, motivation, and planning;
- Cooperate with others in building and managing joint projects and work productively within a team environment.
- Undertake continuing professional self-development and value the process of life-long learning.
- Formulate and present a dental treatment plan for children and their parents
- Preserve the natural dentition and restore the health, function, and esthetic of primary dentition.
- Find suitable treatment modulates for advanced dental problems
- Identify and treat uncooperative children using different behavioral management techniques.
- Demonstrate effective self-management and planning

Demonstrate manual dexterity to perform an advanced pediatric dental clinical case.

CURRICULUM IMPLEMENTATION

Curriculum implementation refers to putting into, practice the official document including course content, objectives, learning and teaching strategies, and implementation of a process to help the learner achieve knowledge, skill, and attitude.

Learners are important components of the implementation process. Implementation occurs when the learner achieves the intended learning outcomes, knowledge, skill, and attitudes which are aimed at making the learner an effective member of the society.

The Teachers are an important part of this process and implementation of that curriculum in the way of selection, utilizing the various components of the curriculum.

Curriculum implementation can be affected by certain factors such as teacher, learner, learning environment, resources materials, facilities, culture and ideology, instructional supervision, and assessments.

OVERVIEW

Pedodontics is taught (as part of operative dentistry) in the 4th year (final) year themes and related sub-themes covered during this block, sequentially as mentioned in TOS table.

1.The theory component covered interactive lectures and

2.Practical training in clinical rotation in the third year fourth years.

The theory component covered interactive lectures

TOPICS
Philosophy of planning dental treatment in children
Dental & oral radiographs in children
Local anesthesia in children
Dental caries in the children and adolescent
Prevention of dental diseases in children
Psychological & pharmacological management of children's behavior
Restorative dentistry for the primary teeth
Full crown coverage in primary teeth
Pulp therapy in primary and young permanent teeth
Minor oral surgery in children
Space maintenance and space maintainers
Anomalies of developing dentition
Use of antimicrobials and analgesics in pediatric dentistry
Dental trauma to primary and young permanent teeth
Nitrous oxide – Oxygen inhalation sedation
Periodontal diseases in children
Dental management of special children
Oral manifestations of infectious diseases in children
Dental management of children with systemic diseases
Dental emergencies in children
Medical emergencies in pediatric dental clinics

Hospital dentistry

1.The theory component covered interactive lectures.

2. The didactic component consists of two lectures per week in the fourth (Final) year.

3. Clinical training consists of eight weeks' rotation in Pediatric Dentistry Clinics.

4. Contents of clinical training include;

a) Assessment of the new child patient; medical and dental history, assessment of behavior, occlusion, oral habits, soft tissue and hard tissues. Taking radiographs.
b) Prevention: Patient's and parents' motivation, plaque control, topical fluoride therapy and fissure sealants.
c) Local anesthesia, rubber dam placement, restorations, stainless steel crowns, pulpal procedures for primary and young permanent teeth, extraction of primary teeth, space maintainers and behavior guidance.

5. Following procedures need to be completed.

- Treatment plan

- Class I cavity preparation including OL

- Class II cavity preparation

- Anterior restorations (Class III, IV, V, build up)

- Extractions

- Fissure sealants

- Preventive Resin Restorations

- All Pulp therapy procedures

- Space maintainers

- Strip Crowns

- Stainless steel crowns

- Behavior Guidance

- Recall visits

HOURS OF TEACHING

Subject	PMDC 2019	Lecture hours	Clinical hours	Self-Study hours	Total Teaching Hours CDC
Operative Dentistry/ Endodontics/ Paedodontics	305	90	215	25	330
Paedodontics	90	15	50	5	70

TABLE OF SPECIFICATION FOR EXAMINATION

Sr. No	**Topic**	**No of MCQs**	**No of SAQs /SEQ**
1			
2			
3			
	Total		

TABLE OF SPECIFICATION FOR TEACHING AND LEARNING
TOS

		Learning outcomes	

		At the end of each module, students will be able to:						
Topic /them	**Course content**	Knowledge Skill	**Teaching strategy**			**Assessment Tool**		
			Interactive Lecture/LGD SGD/Demo /PBL/CBL/SDL Clinical			MCQ	SAQ	OSCE & Structured viva
1. Introduction to Paedodontic	Definition Aim and need Initial terminologies Background& paradigm	Defined the pedodontics Defined the basic terminologies	✓	✓	✓			
2. Diagnosis treatment planning	Philosophy of planning dental treatment in children according to age groups.	recognize anatomical landmarks dental history write treatment planning considerations, parents counseling, referrals and .	✓	✓	✓			
3. Radiography in children	Dental and oral radiography in children	Identify Types of dental radiographs, identify normal anatomic structures radiation safety, interpretation of radiographic findings in children.	✓	✓	✓			
4. Caries	Dental caries in children and adolescents	Basics of Caries etiology, risk assessment, prevention strategies, restoration options	✓	✓	✓			
5 .Caries prevention	Prevention of dental diseases in children	Oral hygiene measures, Fluoride therapy, dietary counselling, sealants, oral health education, safety and toxicity of fluorides	✓	✓	✓			
6 . Children ’s		Understand child Behavior guidance	✓	✓	✓			

Behavior management	Pharmacological Management, &children's behaviour.	Management techniques, Communication skills, pharmacological and non-pharmacological options for anxiety and pain management.						
7. Pain and Anxiety in Children	Management of pain and anxiety Local anesthesia for children	Indications, Administration and techniques of Local anesthesia for children.	✓	✓	✓			
8. Dental Surgery	Introduction to dental surgery	Recognizes instruments minor surgery protocol	✓	✓	✓			
9.Early Caries treatment	Preventive Restorative dentistry for primary teeth	Caries detection Classification Treatment planning primary and permanent dentition, Materials and techniques for used in primary tooth restorations, sealants PFs and conservative/ preventive resin adhesive restoration PRR.						
Advance Restorations in children	Advanced restorative dentistry	Preserve the natural dentition and restore the health, function, and esthetic of primary dentition. Indication of Steel, and strip crown, procedures .	✓	✓	✓			
Pulp therapy.	Pulp therapy in primary and young permanent teeth	Diagnosis and treatment of pulp conditions in primary and young permanent teeth, pulp capping pulpotomy, pulpectomy, apexification and	✓	✓	✓			

		apex genesis. Follow up and recall.						
Interceptive orthodontic treatment	Space management and space maintainers	Sequence of eruption and shedding of primary and permanent teeth. Evaluation of space needs, Space maintenance options, management of early tooth loss.	✓	✓	✓			
Dental diseases	Anomalies of developing dentition	Developmental disturbances, genetic and systemic conditions affecting the tooth development anomalies of tooth size, number and form. Enamel defects, dentin defects, anomalies of cementum.	✓	✓	✓			
Dental Trauma	Classification of Dental trauma to primary and young permanent teeth.	Diagnosis, Emergency management, and treatment of dental trauma in children. sequelae of trauma to primary and permanent dentition,	✓	✓	✓			
Advance Pain Management	Nitrous oxide-oxygen inhalation sedation	Indications, Administration, monitoring, and management of nitrous Oxide oxygen sedation in children	✓	✓	✓			
Dental management of special children	Dental management of special children	Medical and physically compromised children Treatment considerations for children with special healthcare needs, behavior management, modification in dental care	✓	✓	✓			

Hospital Dentistry	Hospital Dentistry	Introduction to hospital dentistry. Patients requiring hospital dentistry, dental care description of procedures for admissions, investigations, clinical notes, medications and discharge. Protocols of operation theatre.	✓	✓	✓			

LEARNING RESOURSES:

Recommended text books

- Pediatric Dentistry: Infancy through Adolescence By: Paul S. Casamassimo, Henry W. Fields, Dennis J. McTigue, Arthur Nowak. 5th Edition. Saunders. 2013.
- **Paediatric Dentistry** By: Richard Welbury, Monty S. Duggal, and Marie Thérèse Hosey 5th Edition. Oxford University Press. 2018.
- **Dentistry for the Child and Adolescent** By: Ralph E. McDonald 9th Edition, Mosby Co. 2011.
- **Additional References:**
  The American Academy of Pediatric Dentistry Guidelines

Other Learning Resources

1	Hands- on Activities / Practical /clinical sessions	Students will be involved in Practical/clinical sessions and hands-on activities that link with the module to enhance the learning.
2	Skills lab	A skills lab provides the simulated learning experience to learn the basic skills and procedures. This helps patients Video familiarize the student with the procedures and protocols to assist patients.

	Clinical rotation	Direct Observation, hands on, practice on extracted teeth.
3	Video	Video familiarize the student with the procedures and protocols to assist patients.
4	Computer Lab/CSs/DVDs/ Internet Resources	To increase the knowledge, students should utilize the available internet resources and CDs/ DVDs. This will be an additional advantage to increase learning.
5	Self-Learning	Self-Learning is scheduled to search for information to solve cases, read through different resources and discuss among the peers and with the faculty to clarify the concepts.

SAMPLE THEORY PAPER QUESTIONS

SAQ &SEQ

Contents/Topics:

PULP THERAPY IN PRIMARY TEETH AND YOUNG PERMANENT TEETH

Q NO. 1: You are doing a restoration of #46 in a 6-year-old child. After removal of the affected dentin, you noticed an iatrogenic pulp exposure. Briefly describe the clinical management of this case.

Answer Key

Q NO. 1

The diagnosis is Pulp Exposure in the immature permanent tooth. The treatment of choice is Direct Pulp Capping. The procedural steps of direct pulp capping are

1. Clean the cavity with Chlorhexidine solution
2. Anesthetize and isolate with a rubber dam
3. Rinse with an anesthetic solution or sterile saline
4. Use a sterile cotton pellet to control the bleeding
5. Mix the pulp capping agent and apply it to the exposure site
6. Temporize and observe for 5-10 days
7. Permanent Restoration

8. Follow up with EPT, Hot/Cold tests, and Radiographs to access vitality and root completion/apical closure of immature tooth.

Q NO.2

A 9-year-old patient visited with a complaint of a pink spot on #11 up on radiographic examination circular radiolucency continues with pulp canal found what would be your diagnosis, predisposing factors, and treatment plan?

Answer Key

Q NO.2

Diagnosis of internal resorption Predisposing factors for this type of resorption includes caries, trauma, restorative procedures, and heat. Root canal therapy will resolve this type of resorptive process. As long as the process has not resorbed a significant portion of the tooth, the prognosis is favorable. Repairs can be made with bioceramics.

Discuss the materials used in direct pulp capping

1. Calcium hydroxide indication
2. MTA
3. Tri-calcium phosphate
4. Bio dentine

MCQ:

Q. Stimulated pain associated with deep asymptomatic carious lesions not involving the pulp is an indication for the following procedure in vital teeth

a. Direct pulp capping
b. Indirect pulp capping
c. Pulpotomy
d. Pulpectomy

KEY: b

Q. A 5-year-old child attends your office. This is the child's first dental visit. He is asymptomatic. An examination revealed: a full primary dentition, no clinical

caries, and closed contacts posteriorly. The recommended radiograph(s) for this case is/are:

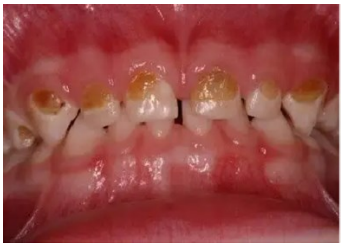
a. Right and left bitewings
b. Pantomograph (OPG)
c. Right and left bitewings and an OPG
d. A Periapical for each quadrant and an OPG

KEY. A

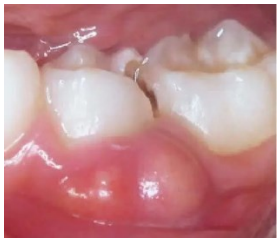
SAMPLE OSCE

A. Identify the condition shown in the picture given above for a 4 years old patient.

B. Give the general management protocol according to the medical model in this patient.



- 8 years old child with periapical abscess and no drug allergy Prescribe antibiotic



Practical /Clinical Part

Ref: Log Books