



King Saud University, College of Dentistry
Department of Preventive Dental Sciences
Division of Pediatric Dentistry

PDS 341 – INTRODUCTION TO PEDIATRIC DENTISTRY

Tuesday, 8:00 – 12:00 noon [DUC]

Wednesday, 8:00 – 12:00 noon [MUC]

Academic Year 2007 - 2008G [1428–1429H]

Course Directors	:	Dr. Thamer Al-Khadra [DUC] Dr. Asma Al-Jobair [MUC]	
Course Contributors	:	Dr. Amjad Wyne Dr. Fares Al-Sehaibany Dr. Lanre Bello Dr. Thamer Al-Khadra	} DUC
Course Contributors	:	Dr. Aljohara Al Hussyeen Dr. Maha Al Sarheed Dr. Nouf Al-Hammad	} MUC

Course Number	:	341
Course Code	:	PDS
Credit Hour	:	Two (2) Credit Hours
Pre-Requisite Course	:	211 RDS
Location in the Curriculum	:	Third Year
Recommended Textbooks	:	Pediatric Dentistry Infancy Through Adolescence By: Pinkham, J.R., 4 th Edition, 2005 Dentistry for the Child and Adolescent By: McDonald, R.E. and Avery, D.R. 8 th Edition, 2005; Mosby Co, Inc

Course Description:

This is a two credit hour course made up of Didactic and Laboratory technique as Introduction to Pediatric Dentistry. The course holds in the second half of the third year.

The primary goals of Pediatric Dentistry include the diagnosis and prevention of disease, the preservation of the natural dentition and the restoration of health, function and esthetics of stomatognathic system. The lectures will cover all these topics.

The primary function of the laboratory is the development of psychomotor skills of the dentist. The psychomotor skills must be highly developed in order to provide quality care of the children.

Due to the high degree of skill required, disappointments and frustrations may occur during the process of learning and development. Some students, for example, will need to repeat various projects. However, the pre-clinical laboratory is the place where mistakes can occur without damage to the patient, and where skills can be developed to a high level of proficiency.

In order to maximize the benefits of each laboratory session, students will be expected to study the laboratory manual preparation for each project.

Course Objectives:

Upon completion of this course, the student should be able to:

1. Understand the basic morphologic applications of cavity preparation in primary teeth.
2. Gain the knowledge of matrix systems, amalgam and composite resin manipulation, stainless steel crown restoration as related to primary teeth.
3. Understand the technique and indications for pulpotomy.
4. Utilize the sealant system as a preventive measure against caries.
5. Predict possible crowding problems and to utilize the space maintainer as a preventive measure against malocclusion.
6. Acquire such psychomotor skills as to be able to treat a child by carrying of simple procedures in the clinic without any inhibitions.

Recommended Textbooks:

- i) Every student is required to purchase the recommended textbooks.
- ii) Lectures will be given from these books, students are required to read the assigned chapters for every lecture. The lecture may not cover everything. Examinations will be from the lectures and respective chapters in the textbooks.

Attendance:

Students MUST attend all lectures and laboratory exercises, and be ON TIME. Student who fails to attend a lecture/lab., he/she must report to the COURSE DIRECTOR the reason behind his/her absence. Any student who fails to attend 75% of the lectures/laboratory exercises will not be allowed to sit for the FINAL EXAMINATION. No excuse whatsoever.

Grading:

- Didactic - 40%
- Laboratory - 60%

Students MUST pass both parts individually to pass the course. If a student passes the didactic but fails the laboratory part, or vice versa, he/she will not pass the course.

Didactic (40%):

The evaluation for the lecture part will be as the following:

- Mid-Term Exam [Essay/short note questions] (15%)
- Final Exam [Multiple choice questions and Essay/Short note] (25%)

Laboratory (60%):

The evaluation for the laboratory projects will be as the following:

Weekly projects / Cleaning the cubicle/Behavior	25%
Quizzes	5%
Midterm exam [specific lab procedure]	10%
Final Exam [specific lab procedure / spot exam]	20%

Quizzes:

During the course, quizzes will be given without prior notice. It can be given in the lecture or in the laboratory. Failure to participate attracts zero mark.

Course Outline [DIDACTIC]:

- The practical importance of pediatric dentistry.
- Development and morphology of the primary dentition.
- Dental caries in the child and adolescent
- Restorative Dentistry
 - I : Posterior Restorations
 - II : Anterior Restorations
 - III : Stainless Steel Crowns
- Pulp therapy for the primary dentition.
- Local anesthesia and the use of the rubber dam.
- Prevention of dental diseases.

- Eruption and development of primary dentition.
- Dental materials in pediatric dentistry.
- Space maintenance in the primary dentition.
- Oral habits.
- Examination of the child patient.

Course Outline [LABORATORY] Operative Technique:

The following procedures shall be carried out by students in the Phantom Head Laboratory on ivorene or natural teeth.

Occlusal cavity for amalgam on	# 54
Occlusal cavity for amalgam on	# 84
Occluso-lingual (OL)	# 55
Mesio-occlusal (MO)	# 65
Mesio-occlusal (MO)	# 85
Disto-occlusal (DO)	# 74
Forming and placing T-band matrix	
Amalgam restoration: condensing, carving, burnishing and finishing	
Preventive resin restoration	Permanent molar / premolar
Stainless steel crown preparation	# 75 or #85 and #64
Pulpotomy (Primary molar)	Extracted tooth
Composite crown (anterior strip crown)	# 52 or # 62
Fissure sealant (Permanent Molar)	Extracted tooth
Fluoride application	Demonstration
Extraction techniques in children	Demonstration
Space maintainer	Demonstration (Band selection and adaptation)

/Betchay. October 1, 2007



King Saud University, College of Dentistry
 Department of Preventive Dental Sciences
 Division of Pediatric Dentistry

341 PDS
Introduction to Pediatric Dentistry
SECOND HALF OF ACADEMIC YEAR 2008
Lecture Outline
February – May 2008
Tuesday, 8:00 – 9:00 am

Course Director: **Dr. Thamer Al-Khadra** [DUC]

Week	Date	Topic	Lecturer
1		Introduction and course requirements	
2		Development and morphology of the primary teeth <i>(McDonald, Ch. 4, pg. 53)</i>	Dr. Wyne
3		Restorative Dentistry for the Primary Dentition I <i>(Pinkham, Ch. 21, pg. 313)</i>	Dr. Al-Dlaigan
4		Restorative Dentistry for the Primary Dentition II <i>(Pinkham, Ch. 21, pg. 331)</i>	Dr. Al-Dlaigan
5		Dental caries in the child and adolescent <i>(McDonald, Ch. 10, pg. 46)</i>	
6		The practical importance of pediatric dentistry <i>(Pinkham, Ch. 1, pg. 1)</i>	
7		Pain perception control <i>(Pinkham, Ch. 7, pg. 85 and Ch. 28, pg. 411)</i> Use of rubber dam in pediatric restorative dentistry <i>(Pinkham, Ch. 21, pg. 311)</i>	Dr. Al-Khadra
8		Restorative Dentistry for the Primary Dentition III <i>(Pinkham, Ch. 21, pg. 324)</i>	
9		MID-TERM EXAMINATION	FACULTY
10		Prevention of dental disease <i>(Pinkham, Ch. Pg. 195)</i>	Dr. Bello
11		Pulp therapy for the primary dentition <i>(Pinkham, Ch. 22, pg. 341)</i>	Dr. Wyne
12		Space maintenance in the primary dentition <i>(Pinkham, Ch. 25, pg. 385)</i>	Dr. Al-Sehaibany
13		Dental materials <i>(Pinkham, Ch. 20, pg. 296)</i>	
14		Examination of the mouth and other relevant structures <i>(McDonald, Ch. 1, pg. 1)</i>	Dr. Bello
15		Oral Habits <i>(Pinkham, Ch. 26 pg. 393)</i>	Dr. Al-Khadra
16		Revision	



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341 PDS
Introduction to Pediatric Dentistry
SECOND HALF OF ACADEMIC YEAR 2007
Laboratory Procedures
February – May 2007
Tuesday, 9:00 AM – 12:00 Noon

Course Director: **Dr. Thamer Al-Khadra** **[DUC]**

Course Contributors : Drs. Wyne, Al-Sehaibany, Bello, Al-Khadra

Date	Topic	Project
	Introduction	Collection of materials / Class I permanent first molar
	Class I cavity preparation	Occ. # 54, # 84
	Modified class I prep. & Class II cavity prep.	OL # 55, MO # 65
	Class II cavity prep.	MO # 85, DO # 74
	Forming and placing T-band matrix Amalgam condensation Make up session	OL # 55, OD # 74, MO # 85
	Strip crown preparation	# 62
	Restoration of strip crown preparation	# 62
	Stainless steel crown (SSC) preparation	# 85 and #64
	MID-TERM EXAMINATION	To be assigned
	SSC fitting and adaptation	# 85
	Pulpotomy	Ext. primary molar
	Band selection, adaptation and impression for space maintainer Soldering technique for space maintainer	# 85 → # 83 Laboratory demonstration
	Fissure sealant & Preventive resin restoration (PRR) Topical fluoride application	Ext. permanent molar teeth Demonstration
	FINAL EXAMINATION / SPOT EXAMINATION	To be assigned
	Finishing and polishing of amalgam restoration. Extraction techniques in children	#55, #74, #85 Demonstration

/Betchay. October 1, 2007



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Introduction to Pediatric Dentistry
SECOND HALF OF ACADEMIC YEAR 2008
Lecture Outline
February – May 2008
Wednesday, 8:00 – 9:00 am

Course Director: **Dr. Asma Al-Jobair [MUC]**

Course Contributors : Drs. Al-Hussyeen, Al-Sarheed, Al-Hammad

Week	Date	Topic	Lecturer
1		Introduction and course requirements	Dr. Al-Jobair
2		Development and morphology of the primary teeth <i>(McDonald, Ch. 4, pg. 53)</i>	Dr. Al-Hussyeen
3		Restorative Dentistry for the Primary Dentition I <i>(Pinkham, Ch. 21, pg. 313)</i>	Dr. Al-Jobair
4		Restorative Dentistry for the Primary Dentition II <i>(Pinkham, Ch. 21, pg. 331)</i>	Dr. Al-Jobair
5		Dental caries in the child and adolescent <i>(McDonald, Ch. 10, pg. 46)</i>	Dr. Al-Jobair
6		The practical importance of pediatric dentistry <i>(Pinkham, Ch. 1, pg. 1)</i>	
7		Pain perception control <i>(Pinkham, Ch. 7, pg. 85 and Ch. 28, pg. 411)</i> Use of rubber dam in pediatric restorative dentistry <i>(Pinkham, Ch. 21, pg. 311)</i>	Dr. Al-Sarheed
8		Restorative Dentistry for the Primary Dentition III <i>(Pinkham, Ch. 21, pg. 324)</i>	
9		MID-TERM EXAMINATION	Dr. Al-Jobair
10		Prevention of dental disease <i>(Pinkham, Ch. Pg. 195)</i>	Dr. Al-Sarheed
11		Pulp therapy for the primary dentition <i>(Pinkham, Ch. 22, pg. 341)</i>	Dr. Al-Hammad
12		Space maintenance in the primary dentition <i>(Pinkham, Ch. 25, pg. 385)</i>	Dr. Al-Sehaibany
13		Dental materials <i>(Pinkham, Ch. 20, pg. 296)</i>	Dr. Al-Jobair
14		Oral Habits <i>(Pinkham, Ch. 26 pg. 393)</i>	Dr. Al-Hussyeen
15		Examination of the mouth and other relevant structures <i>(McDonald, Ch. 1, pg. 1)</i>	Dr. Bello
16		Revision	Dr. Al-Jobair

/Betchay, October 1, 2007



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Laboratory Procedures
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Course Director: **Dr. Asma Al-Jobair [MUC]**

Course Contributors : **Drs. Al-Hussyeen, Al-Sarheed, Al-Hammad**

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	Introduction	Collection of materials / Class I permanent first molar
	Class I cavity preparation	Occ. # 54, # 84
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	Class II cavity prep.	MO # 85, DO # 74
	Forming and placing T-band matrix Amalgam condensation Make up session	OL # 55, OD # 74, MO # 85
	Strip crown preparation	# 62
	Restoration of strip crown preparation	# 62
	Stainless steel crown (SSC) preparation	# 85 and #64
	MID-TERM EXAMINATION	To be assigned
	SSC fitting and adaptation	# 85
	Pulpotomy	Ext. primary molar
	Band selection, adaptation and impression for space maintainer Soldering technique for space maintainer	# 85 → # 83 Laboratory demonstration
	Fissure sealant & Preventive resin restoration (PRR) Topical fluoride application	Ext. permanent molar teeth Demonstration
	FINAL EXAMINATION / SPOT EXAMINATION	To be assigned
	Finishing and polishing of amalgam restoration. Extraction techniques in children	#55, #74, #85 Demonstration

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341 PDS

INTRODUCTION TO PEDIATRIC DENTISTRY

Week 1: Lecture
INTRODUCTION AND COURSE REQUIREMENTS

Course description, Course objectives, Text books, Attendance, Grading Criteria, Didactic and laboratory projects outline.

Week 2: Lecture
DEVELOPMENT AND MORPHOLOGY OF THE PRIMARY TEETH
(McDonald, Chapter 4, page 53)

Life cycle of the tooth. Early development and calcification of anterior primary teeth. Early development and calcification of posterior primary teeth and the first permanent molar. Morphology of individual primary teeth. Morphologic differences between primary and permanent teeth. Size and morphology of the primary tooth pulp chamber.

Week 3: Lecture
RESTORATIVE DENTISTRY FOR THE PRIMARY DENTITION I
(Pinkham, Chapter 21, page 313)

Restoration of primary molars. Class I amalgam restorations. Class II amalgam restorations. Resin materials in primary molars.

Week 4: Lecture
RESTORATIVE DENTISTRY FOR THE PRIMARY DENTITION II
(Pinkham, Chapter 21, page 331)

Restoration of primary incisors and canines. Indications for restoration of primary incisors and canines, class III resin restorations. Class V restorations for incisors and canines. Full coronal coverage of incisors.

Week 5: Lecture
DENTAL CARIES IN THE CHILD AND ADOLESCENT
(McDonald, Chapter 10, page 46)

Caries prevalence in preschool children. Caries prevalence in school children. Theories of the cause of dental caries. Caries in the primary, mixed and young permanent dentition. Secondary factors in dental caries. Rampant dental caries. Nursing caries.

Week 6:

Lecture

THE PRACTICAL IMPORTANCE OF PEDIATRIC DENTISTRY

(Pinkham, Chapter 1, page 1)

Historical perspective. Applications of other disciplines. Challenges for Pediatric Dentistry in the 21st Century. Child abuse and neglect, children of poverty. Informed consent and risk management technology. Health care delivery strategies / payment strategies. Emergence of Pediatric Dentistry as a worldwide community.

Week 7:

Lecture

PAIN PERCEPTION CONTROL (LOCAL ANESTHESIA)

(Pinkham, Chapter 7, page 85; Chapter 28, page 411)

Mechanisms of action. Local anesthetic properties. Local anesthesia in children. Topical anesthesia. General considerations for local anesthesia. Maxillary primary and permanent molar anesthesia. Maxillary primary and permanent incisor and canine anesthesia. Palatal tissue anesthesia. Mandibular anesthesia. Complications of local anesthesia.

USE OF RUBBER DAM IN PEDIATRIC RESTORATIVE DENTISTRY

(Pinkham, Chapter 21, page 311)

Advantages for use of rubber dam (RD). Contraindication for use of RD. Preparing and placement of the RD. Removing the RD.

Week 8:

Lecture

RESTORATIVE DENTISTRY FOR THE PRIMARY DENTITION III

(Pinkham, Chapter 21, page 324)

Use of stainless steel crown (SSC). Types and indications for use of SSC. Steps of preparation and placement of SSC to primary molars. Special considerations for SSC. Placement of adjacent crowns. Preparing crowns in areas of space loss.

Week 9:

MIDTERM EXAMINATION (20 MARKS)

Week 10:

Lecture

PREVENTION OF DENTAL DISEASE

(Pinkham, Chapter 14, page 195)

Prenatal counseling. Fluoride administration – Rationale, mechanism of action. Systemic fluorides, topical fluorides safety and toxicity. Diet. House care. Non-nutritive sucking.

- Week 11:** **Lecture**
PULP THERAPY FOR THE PRIMARY DENTITION
(Pinkham, Chapter 22, page 341)
- Histology of pulp-dentine complex. Reactions to dental caries. Reactions to operative procedures. Clinical pulpal diagnosis. Pulp treatment procedures – conservative treatment, radical treatment. Root filling materials.
- Week 12:** **Lecture**
SPACE MAINTENANCE IN THE PRIMARY DENTITION
(Pinkham, Chapter 25, page 385)
- General considerations. Appliance therapy – Band and loop, lingual arch, distal shoe, removable appliances.
- Week 13:** **Lecture**
DENTAL MATERIALS
(Pinkham, Chapter 20, page 296)
- Bases and liners. Cavity varnish. Dentine bonding agents restorative materials – amalgam, composite resin, glass ionomer, compomer. Cements.
- Week 14:** **Lecture**
ORAL HABITS
(Pinkham, Chapter 26, page 393)
- Thumb and finger sucking habits. Pacifier habits. Lip habits. Tongue thrust. Mouth breathing. Bruxism nail biting. Self-mutilation.
- Week 15:** **Lecture**
EXAMINATION OF THE MOUTH AND OTHER RELEVANT STRUCTURES
(McDonald, Chapter 1, page 1)
- Initial parental contact with the dental office. The diagnostic method. Periodicity of examination, preventive dental services and oral treatment for children. History form and contents.
- Week 16:** Revision

/Betchay. October 1, 2007