SRI AUROBINDO COLLEGE OF DENTISRTY
DEPT. OF PEDIATRIC AND PREVENTIVE DENTISTRY

SYLLABUS

1. Introduction to Full Mouth Rehabilitation (FMR)

- Definition and scope of FMR in children
- Indications and contraindications
- Goals and philosophy of pediatric FMR
- Overview of preventive and therapeutic approaches

2. Diagnosis and Case Selection

- Comprehensive patient evaluation
  - Medical and dental history
  - Extraoral and intraoral examination
  - Radiographic and diagnostic aids
- Behavioral assessment and patient management strategies

3. Treatment Planning

- Principles of treatment planning in pediatric FMR
- Sequencing of treatment
- Behavior management and sedation options
- Multidisciplinary approach (orthodontics, pediatric medicine, etc.)

4. Minimally Invasive Dentistry in FMR

- Principles and philosophy of MID
- Techniques:
  - Atraumatic Restorative Treatment (ART)
  - Hall Technique
  - Silver Diamine Fluoride (SDF) application
  - Preventive Resin Restorations (PRR)

5. Restorative Techniques

1. Introduction to Pediatric Restorative Dentistry

- Definition and goals
- Importance of early restorative intervention
- Differences between restorative treatment in primary vs. permanent dentition

2. Tooth Anatomy and Development

- Morphology of primary and young permanent teeth
- Pulpal anatomy and implications for restorative procedures

- Eruption sequence and timing

5. Principles of Cavity Preparation in Pediatric Teeth

- Conservative and biologic approach

6. Direct Restorative Techniques

- Glass Ionomer Cements (GIC and RMGIC) - Indications, advantages, and placement
- Composite Restorations
- Class I–V restorations

7. Indirect Restorative Techniques

- Stainless Steel Crowns (SSCs) - Indications, technique, and Hall technique

6. Endodontic Procedures

- Pulp therapy in primary teeth (pulpotomy, pulpectomy)
- Apexogenesis and apexification

7. Space Management

- Space maintainers
- Managing early loss of primary teeth

8. Prevention and Long-Term Maintenance

- Fluoride therapy and sealants
- Diet counselling and oral hygiene instructions
- Follow-up protocols and recall visits

9. Full Mouth Rehabilitation under General Anaesthesia / Conscious Sedation

Sedation and General Anaesthesia in Pediatric and Preventive Dentistry

1. Introduction

- Definition of sedation and general anaesthesia

- Objectives of sedation and GA in pediatric dentistry
- Indications and contraindications
- Psychological considerations in pediatric patients

2. Behaviour Management Techniques

- Non-pharmacological techniques
- Role of pharmacological methods when non-pharmacological methods fail

3. Sedation in Pediatric Dentistry

A. Levels of Sedation

B. Types of Sedation Techniques

- Inhalation sedation
- Oral sedation
- Intranasal sedation
- Intramuscular sedation
- Intravenous sedation

C. Drugs Used in Sedation

- Benzodiazepines (Midazolam, Diazepam)
- Nitrous oxide
- Ketamine
- Hydroxyzine, Promethazine
- Chloral hydrate (historical use)
- Dexmedetomidine (emerging use)

D. Indications & Contraindications of Sedation

F. Post-operative Care and Discharge Criteria

4. General anaesthesia (GA) in Pediatric Dentistry

A. Definition and Principles

B. Indications & Contraindications for GA

C. Pre-anaesthetic Evaluation

- Medical history
- Laboratory investigations

D. Preparation and Protocol

- Pre-operative fasting guidelines
- Informed consent
- Hospital admission procedure

E. Techniques of GA

F. Drugs Used in GA

G. Monitoring and Safety

H. Post-operative Care

5. Risk Assessment and Emergency Management

6. Legal and Ethical Considerations

MODULE

MODULE 1: BASICS OF PEDIATRIC DENTISTRY

1.1 Introduction to Pediatric Dentistry

- Definition, scope, and objectives of Pediatric Dentistry.
- Evolution and relevance of pediatric oral healthcare.
- Role of the pediatric dentist in preventive, interceptive, and therapeutic care.
- Ethical considerations, child-centered care, and family counseling.

1.2 Pediatric Patient Evaluation

- **First Dental Visit**: Ideal timing, parental counseling, objectives.
- **History Taking**: Medical, dental, behavioral, and social history.
- **Clinical Examination**:
  - Extraoral: Head, neck, TMJ, symmetry.
  - Intraoral: Soft tissue, gingiva, tongue, palate, dental charting.
- **Oral Hygiene and Dietary Assessment**: Tools for evaluation, anticipatory guidance.

1.3 Diagnostic Aids

- **Radiographic Techniques**:
  - Intraoral: Bitewing, periapical, occlusal.
  - Extraoral: OPG, lateral ceph, wrist radiographs.
- **Complementary Tests**:
  - Clinical photos, study models, lab investigations.

1.4 Growth and Development

- **Chronology of Dentition**:
  - Eruption timelines, Nolla's stages.
- **Dental Morphology**:
  - Differences between primary and permanent teeth.
- **Occlusion Development**: From primary to permanent dentition.

1.5 Behavior Management in Pediatric Dentistry

- Theories of childhood psychological development.
- Classification of behavior (Frankl, Wright, Venham).
- **Non-pharmacological Techniques**: Tell-show-do, distraction, modeling.
- **Pharmacological Techniques**: Indications for nitrous oxide, sedation levels, patient selection.

MODULE 2: Restorative Pediatric Dentistry

2.1 Caries Pathology and Early Childhood Caries

- Etiopathogenesis: biofilm, host susceptibility, diet, fluoride exposure.
- Risk factors: socio-economic, behavioral, systemic.
- **Early Childhood Caries (ECC)**: Etiology, types, progression, and impact.

2.2 Diagnosis and Caries Risk Assessment

- **Visual-Tactile Examination** and caries detection systems (ICDAS).
- Use of adjunctive tools: laser fluorescence, transillumination.
- CAMBRA protocol for personalized preventive care.

2.3 Restorative Approaches

a. Minimally Invasive Techniques

- Atraumatic Restorative Treatment (ART).
- Preventive Resin Restorations (PRR).
- Pit and Fissure Sealants.

b. Direct Restorations

- Composite resins: Indications, cavity design, bonding systems.
- Glass Ionomer Cements (GIC): High-viscosity, resin-modified GICs.

c. Indirect Restorations

- **Preformed Stainless Steel Crowns (SSCs):**
  - Indications: extensive caries, after pulp therapy, developmental anomalies.
  - Armamentarium, preparation, cementation steps.
- **Anterior Aesthetic Crowns:**
  - Strip crowns, zirconia crowns—technique and patient selection.

MODULE 3: pain control and pulp therapy in pediatric dentistry

3.1 Pain Physiology and Local Anesthesia

- Pain perception in children.

Mechanism of anesthetics.

- Pediatric dosage calculation and safe injection techniques.
- Behavior modification during administration.

3.2 Pulp Therapy in Pediatric Dentistry

a. Vital Pulp Therapy

- **Indirect Pulp Treatment (IPT)**: Criteria, technique, materials.
- **Direct Pulp Capping**: Rare in primary teeth; more applicable in young permanent teeth.
- **Pulpotomy**:
  - Indications: vital coronal pulp with reversible inflammation.
  - Techniques: formocresol, ferric sulfate, MTA, laser.
- Post-pulpotomy restoration: always a crown (preferably SSC).

b. Non-Vital Pulp Therapy

- **Pulpectomy**:
  - Indications: necrotic pulp or irreversible pulpitis in primary teeth.
  - Canal preparation, irrigants, obturation materials (ZOE, iodoform).
- Apexogenesis and apexification in young permanent teeth.

3.3 Sedation and General Anesthesia

- **Levels of Sedation**: Minimal, moderate, deep.
- **Pharmacological Agents**: Midazolam, ketamine, nitrous oxide.
- **General Anesthesia**:
  - Indications: extreme anxiety, extensive dental needs, special healthcare needs.
  - Preoperative evaluation, informed consent, operative protocol, discharge criteria.

3.4 Emergency and Postoperative Care

- Monitoring vital signs.
- Management of sedation-related complications.
- Guidelines for post-anesthesia care at home and in-clinic.