

Introduction To Pediatric Dentistry & Dental Public Health

Dr. Rabaa Mahmoud

Learning Objectives

By the end of this lecture, the students will be able to:

- Know the definition and objectives of Pediatric Dentistry and Dental Public Health.
- know the most common diseases in children and types of treatment in Pediatric Dentistry.
- Differentiate between the role of a dentist in dental practice and in community dentistry
- Know the tools of Dental Public Health.
- Know the functions of a Dental Public Health specialist.



Pediatric Dentistry

Definition of Pediatric Dentistry

- A branch of dentistry that is concerned with the **dental care and treatment of children**
- Pediatric dentistry is one of the most important branches of dentistry



Objectives of Pediatric Dentistry

1. Early diagnosis of the disease and treatment
2. Giving comfort through **relieving pain**, removing infection, and restoring functions
3. **Reduce fear and anxiety**, and modify the child's behavior
4. Implement the principles of preventive dentistry from birth

Objectives of Pediatric Dentistry

5. **Parental** guidance and counseling regarding different methods of preventive dentistry and treatment modalities
6. **Occlusal** guidance and early treatment of developing malocclusion
7. Managing children with **special** needs (physically, mentally, and medically)

Most common dental problems in children

- 1. Baby bottle caries (ECC)**
- 2. Sucking of a finger or thumb**
- 3. Trauma**
- 4. Malocclusion**

Baby bottle caries

- **Baby Bottle Caries**, also known as **Early Childhood Caries (ECC)**, is a rapidly progressive form of dental decay that affects primary teeth, particularly the maxillary anterior teeth.
- Resulting from frequent and prolonged exposure to sugary liquids (such as milk, formula, juice, or sweetened drinks) in a bottle or during nighttime breastfeeding.
- Advances rapidly due to the thinness of the enamel.



Sucking of a finger or thumb

- Thumb sucking is an oral habit in which a child places their thumb (or sometimes fingers) in the mouth and sucks repetitively for comfort, relaxation, or security.
- It is considered a normal, self-soothing behavior in infancy and early childhood, but if it persists beyond 3–4 years of age, it may lead to dental and skeletal changes, such as anterior open bite, increased overjet, and posterior crossbite.





Sucking of a finger or thumb prevention

- To prevent children from sucking their thumbs, some parents use bitterants or piquant substances on their child's hands, although this is not a procedure encouraged by the American Dental Association (ADA).

Trauma



- **Dental trauma** refers to any injury to the teeth, gums, periodontal tissues, or surrounding oral structures (such as the lips and jaws) resulting from an external force.
- These injuries are common in childhood due to falls, sports accidents, collisions, and play activities.
- Trauma may involve **enamel fractures, tooth displacement, intrusion, avulsion, soft-tissue injuries, or fractures of bone.**



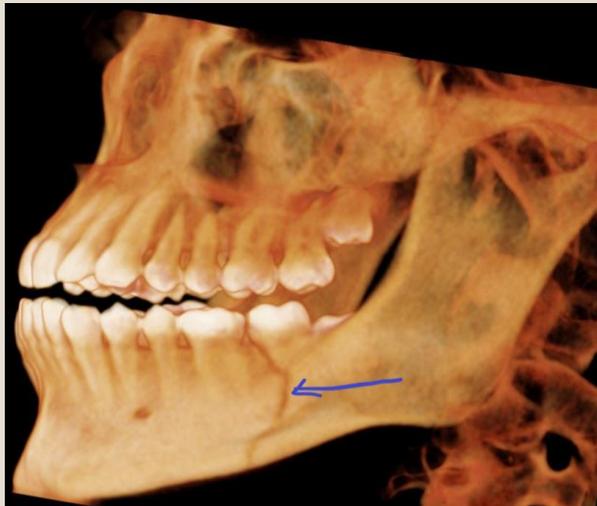
intrusion



avulsion



tooth displacement



fractures of bone



soft-tissue injuries

Malocclusion

- **Malocclusion** is a misalignment or incorrect relationship between the teeth of the upper and lower jaws when the jaws are closed.
- It includes irregularities in tooth position, spacing, or jaw alignment and may affect function, esthetics, speech, and oral health.



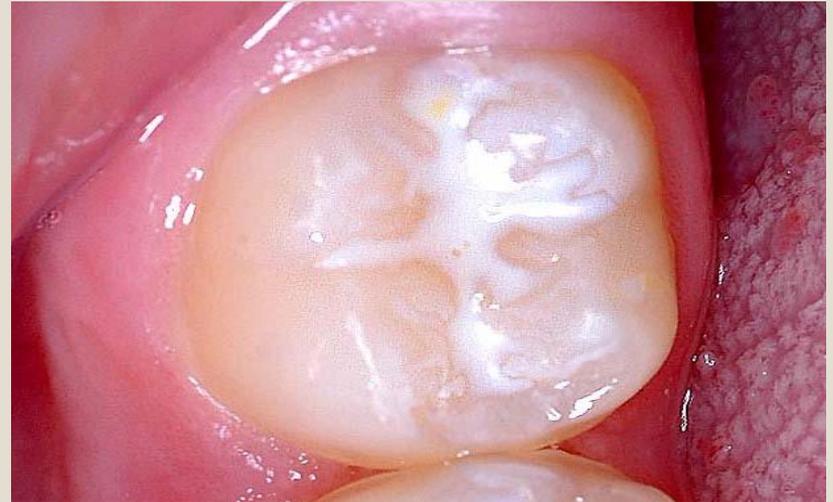
Types of treatment in pediatric patients

1. Preventive Dental Treatment, such as fluoride and fissure sealant
2. Restorative Treatment, such as glass ionomer, composite, stainless steel crowns, pulpotomy, and pulpectomy
3. Surgical treatment, such as tooth extraction
4. Management of dental trauma

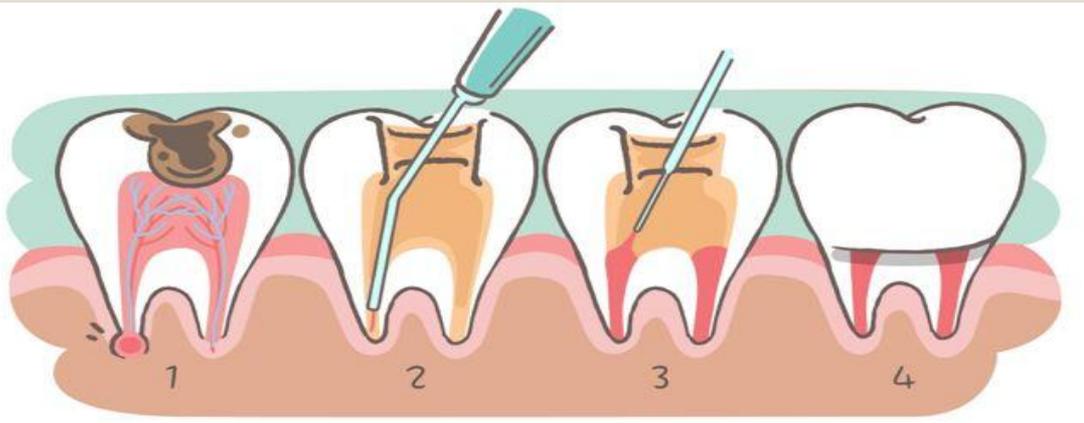
Types of dental restorations for primary teeth



stainless steel crowns



fissure sealant



pulpectomy



fluoride



DENTAL PUBLIC HEALTH

Definition of Dental Public Health

- Dental public health is the science and art of preventing and controlling dental diseases and promoting dental health through organized community efforts.
- *It is that form of dental practice that serves the community as a patient rather than the individual.*

Differences between a private practitioner and a community health dentist.

	Private practitioners	Community health dentist
1	Work alone	Work in a team
2	Focus on individual patient	Focus on community
3	Independent decision maker regarding line of treatment	Decision taken by advisory council
4	Patient consent and cooperation required	Community participation
5	Payment for treatment by individual	Payment by government authorities
6	Emphasis on curative and restorative care	Emphasis on promotive and preventive care

Functions Of Public Health Dentistry

Services provided to the community by public health dentist include:

1. Preventive Services such as application of fluorides and pit and fissure sealants

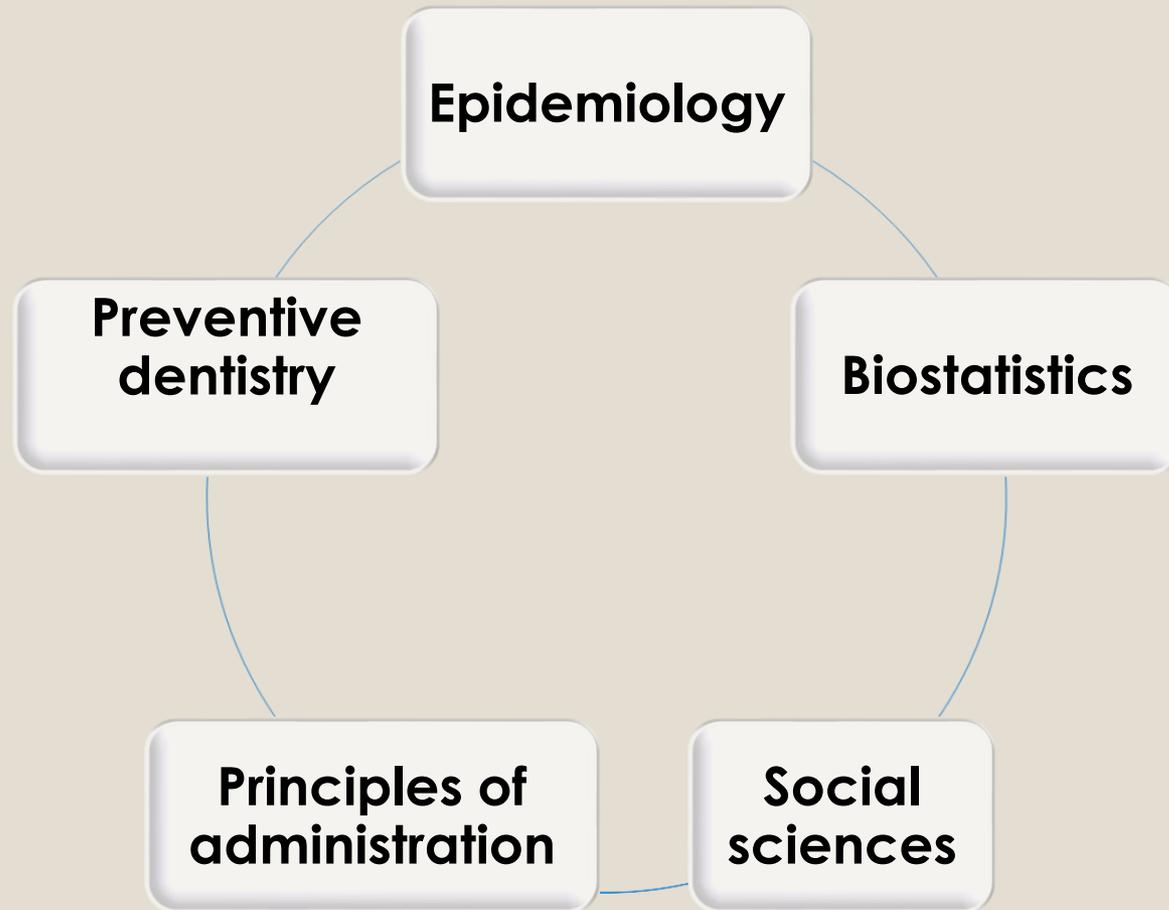
2. Public Health Training, such as schoolteachers' training programs

3. School Dental Health Program, such as teaching oral hygiene methods and the importance of dental health to children.

4. Dental Public Health Program, such as a Screening program for oral cancer.

5. Dental Health Education such as Education about dental health and its importance to community, industrial workers and social organizations.

Tools of Dental Public Health



1. Epidemiology

- Defined as the study of the distribution and determinants of health-related events in specified populations and the application of this study to control health problems.

2. Biostatistics

It is the method of collecting, organizing, analyzing, tabulating, and interpreting data related to living organisms and human beings.

3. Social Science

Social science refers to the study of how social, behavioral, cultural, economic, and environmental factors influence oral health and how these factors can be addressed to improve the oral health of communities.

4. Principles of administration

Administration is defined as "the art and science of guidance, leadership, and control of the efforts of a group of individuals towards some common goals".

5. Preventive dentistry

Prevention is defined as actions aimed at eliminating or minimizing the impact of diseases and disability.

- **Levels of prevention:**
 - i. Primary-primary prevention.
 - ii. Primary prevention.
 - iii. Secondary prevention.
 - iv. Tertiary prevention.

References

1. Dean JA, Avery DR, McDonald RE. McDonald and Avery's Dentistry for the Child and Adolescent. **10th ed. Elsevier; 2016.**
2. A Textbook of Public Health Dentistry, CM Marya, **Jaypee Brothers Medical Publishers, 1st ED; 2011.**



◦ THANKS