Fifth year/ Lec 1 Pediatric Dentistry

Introduction to Pediatric Dentistry
Examination of the Mouth and Other Relevant Structures

Successful dental treatment for children can be achieved by recording a detailed history, a complete clinical examination, appropriate investigations, a thoughtful diagnosis and an appropriate treatment plan. It is very essential to obtain all relevant information about the patient and his family along with an informed consent before embarking upon the comprehensive treatment program for a child patient. A dentist is traditionally taught to perform a complete oral examination of the patient and to develop a treatment plan based on the examination findings, then makes a case presentation to the patient or parents, outlining the recommended course of treatment. This process should include the development and presentation of a prevention plan that outlines an ongoing comprehensive oral health care program for the patient and establishment of the "dental home. "It is recommended that the first examination for the child be done **at the time of the eruption of the first tooth** and no later than 12 months of age. Early detection and management of oral condition scan improve oral health and, in turn, the general health and well-being of the child

Treatment planning

Treatment planning is the orderly or sequentially arrangement of the various treatment needs of the patient to provide maximum benefit to the patient as a whole. The plan should include recommendations designed to correct existing oral problems (or halt their progression) and to prevent anticipated future problems. It is essential to obtain all relevant patient and family information, to secure parental consent, and to perform a complete examination before embarking on this comprehensive oral health care program for the pediatric patient. **Anticipatory guidance** is the term that often used to describe the discussion and implementation of such a plan with the patient and/or parents.

Advantages of Treatment Planning

1.Avoiding the re-diagnosis at every visit.
2.Give serial appointments on the first day as the patient's treatment needs that are already planned in a sequential order (step-by-step guideline).
3.Instruments can be prepared well in advance before the patient's arrival for the

treatment
4. Estimation of the time and no. of appointments required as well as the total fee
Treatment plan must be discussed with the parents and permission taken before performing any treatment on the child.

The followings information must be taken:

- ✓ Dental need of their child including the treatment as well as the preventive measures.
- ✓ Amount of time required to perform the treatment and the total cost.

Notes:

Treatment planning may be modified during the procedure based on the following:
1)Estimation of cooperation from the patient and parents.
2)Assessment of the condition of the teeth and the oral hygiene.
3)Whether extraction is needed or not.
4)Nature of tooth movement and type of appliance required.

Obtaining accurate information of a child is very difficult. The reasons may be any of the following:

1. Most of the times, it is the parent or the guardian who will be providing the required data about the child and not the child himself or herself.
a. Information provided by parents or guardians may be inaccurate.
b. Information provided by parents or guardians is dependable on their emotional maturity.
c. Unless reports are made immediately after the observation, the parents may forget to mention minor yet important findings.
2. It is impossible to observe and record everything a child does or says.
3. Most children do not behave in the dental clinic the same way as they do at home or with their friends or teachers.
4. There may be a deliberate distortion by the observer to show the child or the parent in a favorable light.

The Diagnostic Method

A thorough history, detailed examination and an accurate diagnosis are very essential for successful outcome of any treatment.
Diagnosis and treatment planning includes assembling all the relevant facts obtained through history and examinations and then to analyze each of them for determining the course of treatment.
Some pathognomonic signs may lead to an almost immediate diagnosis. For example, obvious gingival swelling and drainage may be associated with a single,

badly carious primary molar. On the other hand, sometimes there is a need to postpone a comprehensive diagnosis of all of the patient's problems or potential problems until conditions that are more urgent are resolved. For example, a patient with necrotizing ulcerative gingivitis (NUG) or a newly fractured crown needs immediate treatment, but the treatment will likely be only palliative, and further diagnostic and treatment procedures will be required later.

Clinical Examination

A thorough clinical examination of the pediatric dental patient not only includes intra- and extra oral examination but also comprise of complete general examination, it may include an assessment of the following:

- ✓ General growth and health
- ✓ Chief complaint, such as pain and swelling …etc.
- ✓ Extra oral soft tissue and temporomandibular joint evaluation
- ✓ Intraoral soft tissue
- ✓ Oral hygiene and periodontal health
- ✓ Intraoral hard tissue
- ✓ Developing occlusion
- ✓ Caries risk
- ✓ Behavior

Additional diagnostic aids are often also required, such as radiographs, study models, photographs, pulp tests, and, infrequently, laboratory tests.

Components of oral examination and diagnosis

1)Recording the history (medical, dental and familial). So to get a correct diagnosis, gathering complete and comprehensive information about the followings should be done:

a. Vital statistics (demographic information about the child)

b. Chief complaint and history of present illness family (social) history and pre-and postnatal history about the child

d. Medical and drug history. It may affect the child's growth and development (social and psychological) as well as the type of diet taken by the child).

e. Past dental history

f. Behavioral history

2) Examination of the patient (clinical and radiographical)

3) Provisional diagnosis

4) Special examination

5) Final diagnosis

6) Treatment plan (including medical referrals)

Notes

1. Dental history

:-Include:

- Previous care (treatment) in the dental office
- Oral hygiene.
- Habits.
- Previous and current fluoride therapy.

2. Information regarding the child's social and psychological development is important. Accurate information reflecting a child's learning, behavioral, or communication problems is sometimes difficult to obtain initially, especially when the parents are aware of their child's developmental disorder but are reluctant to discuss it. Mentally retarded child can be determined by asking question about the learning process and the child's behavioral and communication problem.

3. Behavioral history includes any behavior problems in the dental office, which are often related to the child's inability to communicate with the dentist and to follow instructions

General Examination:

General well-being of the child can be examined by a brief survey of the entire **child's body.** The dentist may in some cases wish to note the patient's size, stature, gait, or involuntary movements. The first clue to malnutrition may come from observing a patient's abnormal size or stature. Similarly, the severity of a child's illness, even if oral in origin, may be recognized by observing a weak, unsteady gait of lethargy and malaise as the patient walks into the office.

General examination includes the examination of the followings:

1) Head, hair, face, neck and hands

The dentist can gather useful information while being acquainted with a new patient. After the patient seated in the dental chair, attention to the patient's hair, head, face, neck, and hands should be among the first observations made by the dentist, because abnormalities in size, shape, symmetry, function of head and neck indicate various syndromes that may be associated with oral abnormalities. Inspection and palpation of the patient's head and neck are indicated. Unusual characteristics of the hair or skin should be noted. The dentist may observe signs of problems such as head lice, ringworm, or impetigo during the examination. Proper referral is indicated immediately, because these conditions are contagious.

The patient's hands may reveal information pertinent to a comprehensive diagnosis. (How?)

The dentist may first detect an elevated temperature by holding the patient's hand.

- ✓ Cold, clammy hands or bitten fingernails may be the first indication of abnormal anxiety in the child.
- ✓ A callused or unusually clean digit suggests a persistent sucking habit.
- ✓ Clubbing of the fingers or a bluish color in the nail beds suggests congenital heart disease, which may require special precautions during dental treatment.

2) Temporomandibular joint evaluation

The dentist should evaluate temporomandibular joint (TMJ) function and the associated musculature by palpating the head of each mandibular condyle and by observing the patient while the mouth is closed (teeth clenched), at rest, and in various open positions. Movements of the condyles or jaw that do not flow smoothly or that deviate from the expected normal should be noted. Similarly, any crepitus (that may be heard or identified by palpation) as well as any other abnormal sounds or clicking should be noted. Sore masticatory muscles (that may be detected by pain, deviation and restricted mouth opening) may also signal TMJ dysfunction. Such deviations from normal TMJ function may require further evaluation and treatment.

There is a consensus that temporomandibular disorders in children can be managed effectively by the following

conservative and reversible therapies:

- ✓ patient education,
- ✓ mild physical therapy
- ✓ behavioral therapy
- ✓ medications,
- ✓ occlusal splints.

**Mouth opening (which is normally 40–45 mm) is also related to TMJ function and should be examined.

3) Lymph nodes

The extra oral examination continues with palpation of the patient's neck and submandibular area and any deviations from normal, such as unusual tenderness or enlargement, should be noted and follow up tests performed or referrals made as indicated.

4) Lips, Chin and tongue

If the child is old enough to talk, speech should be evaluated. The positions of the tongue, lips, and perioral musculature during speech, while swallowing, and at rest may provide useful diagnostic information.

**Chin prominence is related to mandibular position.

**Lips normally should be competent (touch each other lightly or with 0-1 mm of gap). When the lips do not approximate each other at rest, they are termed as incompetent