Behavior management of pediatric patients during dental treatment
The Dentist, who treats children:

• **SHOULD HAVE:**
  - enough experience - this means that he/she must have long practice and that he/she knows how to behave and to cope with the child in any situation
  - variety of behavior guidance approaches.

• **SHOULD BE ABLE:**
  - In most situations to assess accurately the child’s developmental level, dental attitudes, and temperament
  - to predict the child’s reaction to treatment.
The dentist, who treats children:

- **MUST KNOW:**
  - That any child with difficulties to explain his complaints tests the skills of every practitioner.

- According to his/her experience, clinician’s training, and personality, a behavior guidance approach for a child may vary among practitioners.

- The behaviors of the dentist and dental staff members play an important role in behavior guidance of the pediatric patient.
The dentist, who treats children:

- Must be guided by that:
- It is of the utmost importance that dental appointments in childhood and adolescence be positive
  - because research clearly shows that these early experiences have a strong effect on attendance in adulthood.
Developmental issues:

• Working with children differs from working with adults.
• Children are not all alike - they are in the process of developing:
  - language, intellect, motor skills, personalities and
  - undergoing new experiences of life.
• The ages at which specific abilities develop vary.
• To provide quality dental treatment to children it is necessary to have some basic knowledge:
  - of child development
  - on their particular developmental level.
Child behavior in relation to development

- All children are different, and it is reasonable to expect their behavior in the dental office to also vary.
- Children’s behavior is a function of learning and development.
- The types of behavior that represent the ‘norm’ for a particular chronological age group offer convenient means to classify the expected level of cooperation.
  - There will of course be much individual variation.
Child behaviour:

UNDER 2 YEARS
- The child has little ability to understand dental procedures - effective communication is impossible.
- An oral examination and some treatment can be accomplished (without sedation) - even without cooperation.

TWO YEARS OLD
- Communication ability varies according to the level of vocabulary development - it is expected to be limited.
  - Communication difficulty puts the child in a ‘pre-cooperative’ stage.
    - prefer solitary play and rarely share with others.
  - they are too young to be reached by words alone
  - are shy of new people (including the dentist) and places.
- Child must be allowed to handle and touch objects to understand their meaning.
  - In the office - they should be accompanied by a parent.
  - Sitting in the mother’s lap
THREE-YEAR OLD CHILDREN:

- Are less egocentric and like to please adults.
- Have very active imaginations, like stories and can usually be communicated and reasoned with.
- If they are stressed - they will turn to a parent and not accept a stranger’s explanation - dentist or dental assistant.
- They feel more secure if parents are with them until they have become familiar with the dentist and the assistant - in the room.
- Then a positive approach can be adopted.
Four-year old children - they:

- Listen with interest and respond well to verbal directions.
- Have lively minds and may be great talkers
  - who are prone to exaggeration.
- Will participate well in small social groups.
- Can be cooperative patients
  - but some may be defiant and try to impose their views and opinions.
- Are familiar with and respond well to 'thank you' and 'please'.
Child behaviour:

FIVE-YEAR OLD CHILDREN:
• They play cooperatively with their peers.
• Usually have no fear of leaving their parents for a dental appointment
  - they don`t have fear of new experiences.
• They take pride in their possessions, and comments about clothing can be effectively used to establish communication and develop a rapport.
• By this age children should have no need of comfort objects such as thumbs and ‘security blankets’.
• It is much more difficult for children, who do not go to kindergarten to adapt in new environment.

They not socialize easily and is more difficult to adapt to the dental office.
Child behaviour:

SIX YEARS OLD

- Children are established at school.
- Are moving away from the security of the family so they are increasingly independent of parents.
- For some children this transition may cause considerable anxiety with outbursts of screaming, temper tantrums and even striking parents.
- Furthermore, some will exhibit marked increase in fear responses.
Behaviour Management:

• Is a mean by which the dental team effectively and efficiently performs dental treatment and thus establishes a positive dental attitude.

• The fundamentals of behavior management center on the attitude and integrity of the entire dental team.
• Positive approach - these includes positive statements
• Team attitude - Friendly and caring
• Organization - Well organized dental team and treatment
• Truthfulness - Black or White - the children should not be deceived
• Tolerance - Ability to rationally cope with the misbehaviors
• Flexibility - as situation demands
Behaviour shaping:

- This is the procedure which slowly develops appropriate behaviour in children.
The studies describing children's behavior in the dental office have centered around three main areas.

2. Describing various forms of behavior, whereas negative behavior patterns have been named.
3. Elaborating on factors which affect behavior in dental environment.
Classification of child behaviour:

- One of the most widely used systems was introduced by Frankl et al. in 1962 - Frankl Behavioural Rating Scale.
- This scale:
  - divides behaviour into 4 categories
  - is often considered the gold standard
  - it is widely used in paediatric dentistry research
Frankl’s Patient behavioral ratings

• Rating 1: **Definitely negative** (---)
  – Refuses treatment
  – Cries forcefully, uncontrollable behavior
  – Is extremely negative, associated with fear

• Rating 2: **Negative** (-)
  – Reluctance to accept treatment, uncooperativeness
  – Displays evidence of slight negativism but not pronounced.
• Rating 3: *Positive* (+)
  – Accepts treatment
  – Timid behavior: follows the dentist’s directions in a shy, quiet manner

• Rating 4: *Definitely positive* (++)
  – Unique behavior: looks forward to and understands the importance of good prevention care
Description of Behavior:

• The above-mentioned Frankl classification has two clear disadvantages:
  - Not enough clinical information for uncooperative patient.
  - When the child is marked with (-), the scale does not identify the type of negative behavior.
Description of Behavior:

• When a dentist examines a child patient, one type of behavior - the cooperative behavior is always identified.

• The key to fulfill a dental treatment is child cooperation.
Description of Behavior:

• Children’s behavior may be characterized in three ways:

  1. Co-operative
  2. Lacking co-operative ability
  3. Potentially co-operative - being referred to the inaccurate term “uncooperative”
     - include the very young children with whom communication cannot yet be established (pre-cooperative)
     - children with specific disabilities with whom cooperation in the usual manner may never be achieved.
Factors affecting child's behavior:

• **Involving the child**
  - Growth and development
  - I.Q. of child
  - Past dental experience
  - Social and adaptive skills
  - Position of child in the family

• **Under the control of parents**
  - Family influence
  - Parent-child relationship
  - Maternal anxiety and attitudes (of parents) to dentistry
    • Overprotective, Overindulgent, Under-affectionate, Rejecting, Authoritarian
Factors affecting child's behavior:

• Under the control of the dentist
• Others
  - socioeconomic status, nutritional
Under The Control of The Dentist

• Dental office should be:
  - comfortable, bright
  - not inspiring fear in the child

• Dentist’s attitude
• Dentist clothes
• Presence or absence of parents
• Presence of older sibling
Effect of Dentist’s Activity & Attitude

- The objective is to explain to the child the importance of dental treatment and its purpose in a manner the child understands.
- Length of Appointment should be short.
- Appointment time should be early - avoid nap time or at the end of work day.
Dentist clothes:

• At the first meeting with the child not to wear a mask and gloves.

• Avoidance of the white coat.
Presence or absence of parents

• If a parent is to be in the operatory, it is important that she does not:
  - Disrupt the relationship between the child and dentist
  - Distract the dentist

• They must attend as a silent observer.
Under the control of parents:

- Maternal anxiety
  - Anxious mother has a greater likelihood of having a child that will be uncooperative in dental office.
- Child must visit the dental office regularly!
- The parents:
  - Should not voice their own personal fears in front of the child.
  - Should not tell anything about what dentist is going to do.
  - Never use dentistry as a threat or punishment.
Under the control of parents:

- There is conflicting evidence with respect to the influence of different parenting styles on child behavior in the dental setting.
- Dentists should take into account the effects of different parenting styles when providing care for the anxious child.
- Where the parenting style appears to be fatal to behavior management in the dental office - consideration might be given to an alternative - another adult whose parenting style will be more helpful.
Previous Dental History:

- Fear sustained from previous unhappy dental visits has been related to poor behavior at subsequent visits.
- Poor cooperation has also been linked to:
  - a history of toothache
  - recent local anesthetic experience
  - previous poor behavior
  - poor oral health status.
Behavior management techniques can be broadly classified as:

• Non-Pharmacological Techniques

• Pharmacological Techniques
1. Communication

2. Behavior shaping (modification)

3. Behavior management
1. Communication:

Fig 3-2 Lines of communication between adult patient and dentist is usually two-way. With children, communication lines can be more confusing.
Communication:

- **Verbal**
  - establishment of communication
  - establishment of communicator
  - message clarity
  - tone

- **Nonverbal**
  - multi sensory communication

- **Active Listening**

- **Appropriate Responses** *to the situation*
Verbal communication:

• The language used should always be age appropriate.
• The first objective in the successful management of young child is to establish communication.
• Effective communication is essential to the development of a trusting relationship with child patient.
• To be effective - the message has to be clear.
• The tone - often it is not what is said but rather how it is said - that creates an impact.
Dental terminology

- Rubber dam
- Rubber
- Rubber
- X-ray
- Sealant
- Explorer
- Topical fluoride gel
- Air syringe
- Water syringe
- Suction
- Bur
- Alginate
- High speed
- Low speed

Word substitute

- Raincoat
- Tooth button
- Coat rack
- Tooth picture
- Tooth nail
- Tooth counter
- Cavity fighter
- Wind gun
- Water gun
- Vacuum cleaner
- Brush
- Pudding
- Whistle
- Motorcycle
Nonverbal communication:

• This form of communication occurs continuously and may reinforce or contradict verbal signals.

• Such communication includes having a child-friendly environment and a happy, smiling team.
Nonverbal communication:

• Such as stroking the hand of child.
• Communicates the feeling of warmth.
• The dental team - movements should be slow and smooth.
• Gentle application of instruments.
• This technique may be useful with all patients.
Active listening

• Listening is important in the treatment of all children, especially older children.

• Ways in which children`s feelings are recognized include:
  - Listening quietly
  - Acknowledging the feeling with “I see” or “Are you really nervous about coming to see me”.

COMMUNICATION:
NON-PHARMACOLOGICAL TECHNIQUES
Non-pharmacological techniques:

**NON-INVASIVE**
- Tell-show-do (TSD)
- Behavior shaping
- Reinforcement
- Operant conditioning
- Modeling
- Voice control
- Desensitization
- Visual imagery
- Humor
- Distraction
- Parental presence\absence

**INVASIVE**
- Hand-over-mouth (HOM)
- Restraint
  - Protective stabilization
  - Physical restraint
Tell-show-do (Addelston - 1959)

- The technique involves verbal explanations of procedures in phrases appropriate to the developmental level of the patient *tell*.
- Demonstrations for the patient of the visual, auditory, olfactory, and tactile aspects of the procedure in a carefully defined, non-threatening setting *show*.
- And then, without deviating from the explanation and demonstration, completion of the procedure *do*.
- The tell-show-do technique is used with communication skills *verbal and nonverbal* and *positive reinforcement*. 
Tell-show-do (Addelston - 1959)

- Lengthy complicated procedures are broken down into steps.
- The dentist shows the child:
  - what will be used and how it works
  - how the procedure will be done demonstrating on an inanimate object.
- Noisy instruments should be demonstrated to the children at the distance to avoid startling them.
Tell-show-do (Addelston - 1959)

- Instruments gradually come closer for demonstration and inspection.
- Operating hand-pieces without touching the child - or letting the patient feel the vibration without cutting the tooth.
- This is a desensitizing technique.
Tell-show-do

Objectives:

1. Teach the patient important aspects of the dental visit and introduce the patient to the dental setting.

2. Shape the patient’s response to procedures through desensitization and well-described expectations.
Behaviour shaping

- This is a procedure which very slowly develops appropriate behaviour in children.
- This technique is a simple method of teaching the child step by step what is expected in the dental office.
- This method can be used with children who demonstrate sufficient cooperation.
Behaviour shaping

- Dental team should follow an established protocol for introducing new procedures or instruments to children.
- State the goal at the outset - Today we are going to check your teeth.
- Divide the explanations: First we have to count your teeth. We will start with the upstairs teeth. Now we need to count your downstairs teeth....
- Use age appropriate language - for young children use euphemisms.
Systematic Desensitization ..exposure to hierarchy of fear producing stimuli (Joseph Wolpe)

In the dental chair, alone or in parent's lap

Before entering the dental chair

1. Enter the dental operatory
2. Mirror in mouth
3. Probe on fingernail and then on tooth
4. Air blow on hand and then in mouth
5. Lie in dental chair
6. Clinical examination
7. Prophylaxis + F-varnish

Fig. 4-3. Behavior shaping based on the exposure technique. Introductory steps to the dental situation as suggested by Holst (6) for the first dental visit for young children.
Systematic Desensitization exposure to hierarchy of fear producing stimuli

**Tools**
- Tell-show-do
- Empathy
- Paced breathing
- Distraction
- Suggestion

**Steps**
- "Main dose(s)"
- Small infiltration ("pre-injection")
- "Dripping" on mucosa
- "Topical" on mucosa
- Apply drop of anesthetic solution on hand ("dripping")
- Apply topical anesthesia on hand ("topical")

**Fig. 4-5.** Example of exposure steps in behavior shaping/desensitization for children who are unfamiliar with or fearful of local anesthesia. The words in parentheses are used to make the child familiar with the procedures of the steps.
Voice control:

• Is a controlled alteration of voice volume, tone, or pace to influence and direct the patient’s behavior. Parents unfamiliar with this possibly aversive technique may benefit from an explanation prior to its use to prevent misunderstanding.

• The objectives of voice control are to:
  – gain the patient’s attention and compliance;
  – avert negative or avoidance behavior;
  – establish appropriate adult-child roles.

• Indications: May be used with any patient.

• Contraindications: Patients who are hearing impaired
Nonverbal communication

- This is the reinforcement and guidance of behavior through appropriate contact, posture, facial expression, and body language.
- The objectives are to:
  - enhance the effectiveness of other communicative management techniques;
  - gain or maintain the patient’s attention and compliance.
- Indications: May be used with any patient.
- Contraindications: None.
Positive reinforcement

- In the process of establishing desirable patient behavior, it is essential to give appropriate feedback. Positive reinforcement is an effective technique to reward desired behaviors and, thus, strengthen the recurrence of those behaviors.
  - Social reinforcers include positive voice modulation, facial expression - smile, verbal praise - ‘right’, ‘great’, ‘you are really helping me by opening your mouth wide’, and appropriate physical demonstrations of affection by all members of the dental team.
  - Nonsocial reinforcers include tokens and toys.

- Objective: To reinforce desired behavior.
- Indications: May be used with any patient.
- Contraindications: None.
Distraction

• This is the technique of diverting the patient’s attention from what may be perceived as an unpleasant procedure.
  - Giving the patient a short break during a stressful procedure can be an effective use of distraction prior to considering more advanced behavior guidance techniques.
• The objectives of distraction are to:
  – decrease the perception of unpleasantness;
  – avert negative or avoidance behavior.
• Indications: May be used with any patient.
• Contraindications: None.
Parental presence/absence

- The presence or absence of the parent sometimes can be used to gain cooperation for treatment.
- A wide diversity exists in practitioner philosophy and parental attitude regarding parents’ presence or absence during pediatric dental treatment.
- Practitioners must consider parents’ desires and wishes and be open to change their own thinking.
- Indications: May be used with any patient.
- Contraindications: Parents who are unwilling or unable to extend effective support (when asked).
OBJECTIVES:
• For parents to:
  – participate in infant examinations and/or treatment (if asked);
  – offer very young children physical and psychological support;
  – observe the reality of their child’s treatment.

OBJECTIVES:
• For practitioners to:
  – gain the patient’s attention and improve compliance;
  – avert negative or avoidance behaviors;
  – establish appropriate dentist-child roles;
  – enhance effective communication among the dentist, child, and parent;
  – minimize anxiety and achieve a positive dental experience;
  – facilitate rapid informed consent for changes in treatment or behavior guidance.
INVASIVE METHODS
Protective stabilization

- This is the act of physical limiting and the restriction of patient’s freedom of movement, with or without the patient’s permission, to decrease risk of injury while allowing safe completion of treatment.
- The restriction may involve:
  - another human(s),
  - a patient stabilization device,
  - or a combination of both.
- The use of protective stabilization has the potential to produce serious consequences such as:
  - physical or psychological harm,
  - loss of dignity,
  - violation of a patient’s rights.
- Stabilization devices placed around the chest may restrict respiration
  - they must be used with caution.
The objectives of this method are to:

- reduce or eliminate untoward movement;
- protect patient, staff, dentist, or parent from injury;
- facilitate delivery of quality dental treatment.

Dentist must receive informed consent for stabilization.
INDICATIONS:

• Patients require immediate diagnosis and/or limited treatment and cannot cooperate due to lack of maturity or mental or physical disability.
• To treat the emergencies on hysterical children and children who can not be reached in language because of their age.
• Developmentally disabled children.
• Children who for whatever reason cannot cooperate with the dentist.
• The safety of the patient, staff, dentist, or parent would be at risk without the use of protective stabilization.
• Sedated patients require limited stabilization to help reduce untoward movement.
Protective stabilization

CONTRAINDICATIONS:

• Cooperative non-sedated patients.
• Patients who cannot be immobilized safely due to associated medical or physical conditions.
• Patients who have experienced previous physical or psychological trauma from protective stabilization (unless no other alternatives are available).
• Non-sedated patients with non-emergent treatment requiring lengthy appointments.
Hand Over Mouth - HOM

• Over last two decades this method has gradually become less acceptable for parents and profession.
• In 2006 it was no longer endorsed by the AAPD.
• Still used in other countries where general anaesthesia is not often applied.
Indications:
• A healthy child (able to understand and cooperate), but who exhibits hysterical avoidance behaviors.
• Most effective for gaining attention of children 3-6 years of age.

Contraindications:
• Children who, due to age (under 3 years of age), disability, medication, or emotional immaturity are unable to verbally communicate, understand, and cooperate.
• Any child with an airway obstruction.
HOM - technique:

• Place the hand over the child`s mouth to muffle the noise.
• Bring your face close to the child and talk directly into ear.
• Quietly, tell the child to stop screaming and listen, and then you will remove the hand.
• Explain that you ‘only want to talk and look at your teeth’.
• Repeat the instruction after few seconds, adding: ‘Are you ready for me to remove my hand?’
• Caution the child to be quite when the hand is removed.
Reasons for fear of dental treatment
FEAR

- It is a primary emotion for survival against danger, which is acquired soon after birth.

TYPES OF FEAR

- Objective fear
- Subjective fear
Objective fear

- This is the response to stimuli that are felt, seen, heard, smelled or tasted and are not liked and accepted.

Subjective fear

- It is based on the feelings and attitudes that have been suggested to the child by others about dentistry without the child having had the experience personally.
Reasons:

➢ Increased anxiety about new events.

➢ Anxiety against medical interventions.

➢ Mother`s attitude to child development.

➢ Mother`s fear from dental treatment.
Reasons:

➢ Presence of the child during dental treatment of patient with negative behavior.

➢ Violent approach towards child during dental treatment.

➢ Threat with dentist or physician.
Diagnostic methods of fear

• Variation in pulse rate.
• Variation in blood pressure.
• Registering sweating.
• Projective test - “Draw a men”.
PHARMACOLOGICAL TECHNIQUES
Pharmacological Techniques

• General anesthesia

• Sedation
  - Mild
  - Moderate
  - Deep
General anesthesia

MEDICAL INDICATION:

• Children with
  - Mental development disturbance
  - Musculoskeletal joint disease
  - Neurological disease
General anesthesia

Dental indication

• Children with:
  - Maxillofacial injuries.
  - Strong negative behavior, for who the methods for behavior modelling and pain control aren’t successful.
  - Impossibility for multi-session treatment.
General anesthesia

Contraindication
- Cooperative children
- Children under 3 years and less than 15 kg.
- Cardiac cyanosis
- Asthma relapse more than 1 time per year
- Diabetes
- Coagulopathies
- Protracted vomiting after anesthesia
- Surgeries that require special post-operative care
Sedation

- Pediatric dental treatment under sedation is controversial.
- Indication
  - healthy children - 6 years of age and older
  - for short procedures with predictable end