Sheet no.: 5   
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Behavior management in children

**Negative reinforcement:**

Negative reinforcement is the strengthening of a pattern of behavior (in our case is to open his mouth) by the removal of a stimulus which the individual perceives as unpleasant (a negative reinforcer such as asking the parents to leave the clinic) as soon as the required behavior is exhibited (we ask the parents to come back to the clinic).

The stimulus is applied to all actions except the required one, thus reinforcing it by removal of a negative stimulus.

It’s not punishment

Punishment is application of an unpleasant stimulus to inappropriate behavior

We have 2 examples of negative reinforcement:   
1) selective exclusion of the parent (SEP)   
2) hand over mouth exercise (HOME)

Selective exclusion of the parent:

Parental consent is required

When inappropriate behavior is exhibited the parent is asked to leave.  
Ideally; the parent should be able to hear, but be out of sight of the child.  
When appropriate behavior is exhibited the parent is asked to return, thus reinforcing that behavior.

Hand over mouth exercise:

It involves restraining the child in the dental chair with the help of the assistant, placing a hand over the mouth to allow the child to hear.   
The nose must not be covered.  
The dentist then talks quietly to the child explaining that the hand will be removed as soon as crying stops.

As soon as this happens the hand is removed and the child praised. If protests start again the hand is replaced.

This is a very extreme technique

The technique aims to gain the child’s attention and enable communication, reinforce good behavior and establish that avoidance is futile.

Those who advocate the technique recommend it for children 4-9 years of age when communication is lost or during temper tantrums.

Parental consent is important and the technique should never be used on children too young or with mental or emotional handicapped.

This technique is the most controversial of all behavior management technique used by dentists

There have been no studies of the effectiveness of the hand over mouth exercise because it’s difficult to get ethical approval to do these studies.

The indications of this technique are extremely rare

It’s not a recommended technique.

**Empathy:**

Similar to non-verbal communication

It is the ability to understand and share another person’s experiences and emotions.

Empathy: putting yourself in their shoes

The use of an empathetic approach (verbally and non-verbally) has been shown to be more likely to result in treatment completion than other methods of verbal communication.

It helps the child to feel that as an individual he or she has been acknowledged with the use of open personal questions bringing about a trustful relationship

**Coping strategies:**

Each individual has his own strategy in coping

Coping strategies refer to the specific efforts both behavioral and psychological that people employ to master, tolerate, reduce or minimize stressful events

While stress is an inevitable aspect of the human condition it’s coping that makes a big difference in adaption to stress

Cognitively based coping strategies appear to be more efficacious in older children (8-13 years old) with younger children benefitting more so from coping strategies which offer emotional support.

Older children show more coping behavior when staff or parents make coping promoting statements.

You should combine empathy and coping statements

Most coping strategies children use:

“I do what the dentist tells me to”

“I think it’s good for my teeth”

“I tell myself it will be over soon”

“I think of other things”

“I like it when the nurse holds my hand”

**Other alternative techniques:**

Magic trick

The use of distraction by a magic trick has been shown to be an effective alternative behavioral management strategy in strong-willed young children.

It’s used to persuade strong-willed 3-6 years old young children who refused to sit in the dental chair in the first visit with a more conventional method than tell-show-do (TSD)

Motivational interviewing (MI)

For teenagers mainly who are not willing to change their approach in oral hygiene or dental attendants

A type of counseling which can be employed by individuals trained in this technique (special training) and has been found to be especially effective at overcoming adolescent ambivalence to behavior change.

Motivational interviewing needs time and training.

It has been shown to be effective although the systematic review found it to be not that much effective.

The main point that it can be used with adolescent trying to change their behavior

Memory restructuring strategy

We are trying to make editing for the bad experience the child had at the dentist

A technique that aims to help children develop positive memories of their dental treatment and as such may be effective in reducing fear and improving behavior.

Hypnosis

Hypnosis is an artificially induced altered state of consciousness in which the individual becomes more susceptible to suggestion.

Hypnosis has a greater impact on younger children and was associated with fewer undesirable behaviors during the dental procedures.

Snoezelen environment

Used with autistic kids

A multisensory activation for their sensations

It consists of a partially dimmed room with lighting effects, vibroacoustic stimuli and deep pressure.

It has a positive effect on children.

Child centered approach

It covers everything

It involves all members of the dental team to interact with the child

This approach is employed from the moment the child enters the clinic

**Advanced form of behavior management**

Protective stabilization

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 other human/humans, a patient stabilization device, or a combination thereof.

Indications:

1) Very young child

-Knee to knee examination or treatment

-Patient requires immediate diagnosis and/or urgent limited treatment and cannot cooperate due to emotional and cognitive developmental levels, lack of maturity, medical or physical condition

2) Emergent care is needed and uncontrolled movements risk the safety of the patient, staff, dentist, or parent without the use of protective stabilization.

3) Previously cooperative patient quickly becomes uncooperative during the appointment in order to protect the patient safety and completion of the treatment

4) After sedation to help reduce uncontrolled movement, because the patient may become uncooperative during treatment.

5) Patients with special health care needs may experience uncontrolled movements which can harm them or significantly interfere with the quality of care

Protective stabilization has the potential to produce serious consequences such as:  
-physical or psychological harm  
-loss of dignity   
-violation of the patient’s rights

**Children’s perception of pain:**

Varies widely particularly with age.

The response is further determined by the child’s coping ability influenced by family values, level of general anxiety and intelligence.

Children up to 2 years of age are unable to distinguish between pressure and pain.

After the age of approximately 2 and up to the age of 10 years, children begin to have some understanding of hurt and begin to distinguish it from pressure or a heavy push.

It’s not always possible to identify which children will respond by being cooperative when challenged with local anesthesia or dental treatment

When the child is anxious; he will perceive pain more.

Painful procedures cause fear and anxiety, which intensify pain.

Good behavior management reduces anxiety, which in turn reduces the perceived intensity of pain, and reduces the experience of anxiety.

Analgesics can be used to manage pain in children

Analgesics are considered temporary measures to a number of oral conditions such as ulcers and pulpitis

Studies have shown that almost a quarter of school children have had a recent episode of dentally related pain (the child me be sent home from nursery school due to dentally related pain)

Most of the time we must do clinical intervention to relieve pain.

Oral analgesics are required to achieve pain relief whilst the operative measured are taking effects

Children may need pain control for a day or two before the removal of carious teeth

It’s considered as temporarily solution until we can treat him in the clinic

Most commonly prescribed analgesics is paracetamol or acetaminophen and NSAIDS

Paracetamol:

-unlike the aspirin, acetaminophen doesn’t inhibit platelet function, it also causes less gastric ulcer

Has not been implicated in reye’s syndrome

Main disadvantage that it doesn’t have anti-inflammatory property so it’s not as potent as NSAIDS

May lead to toxicity which will lead to acute liver failure

Dosage:

1-6 year: 125 -250 mg every 4-6 hours

6-12: 250-500mg every 4-6 hours

It’s either pills or solution (liquid)

NSAIDS:

The added advantage is being anti-inflammatory and therefore may benefit in the case of pulpitis or when the child is pyrexic

Most commonly prescribed is ibuprofen

Over dosage may cause nausea, vomiting, and epigastric pain

Ibuprofen should be avoided in patients with asthma

NSAIDs are known to cause gastric ulceration

Dosage:

100-200mg daily in divided dose

4-10mg /kg dose every 6-10 hours

**Pharmacological behavior management techniques:**

-The use of drugs to manage the behavior of a pediatric patient going into dental procedure

-Either by sedation or general anesthesia

-It’s a spectrum

In very young children (2-3 years) most probably sedation won’t be effective

Sedation is used for anxious child but at the same time he should be cooperative

The majority of pediatric dental patients can be managed in the conventional dental environment. This is accomplished by relying on sound behavior management techniques

For some patients additional steps must be taken to control anxiety

There are certain considerations for sedation or GA:

-the age of the child

-the degree of surgical trauma involved

-the perceived anxiety

-how the patient has responded previously

-the complexity of the operative procedure

-the medical status of the child

**Age**

The younger the child the greater the likelihood for GA

2 years old with multiple carious cavities will likely require treatment under GA

Older children with surgical trauma most probably will need sedation or GA

It is unlikely for a 15 year old to be under GA

If we want to expose and impacted canine most of the patients will need GA

Usually if the patient is very young (below 2 years) they will end up treated under GA

**The degree of surgical trauma**

A single extraction is most likely to be carried under LA whereas removal of the four first permanent molars is most likely to be carried out under GA.

**Anxiety**

Excessive anxiety especially after an attempt at treatment under LA or sedation might lead to simple treatment such as conservative dentistry being carried out under GA

**Medical status of the child**

The degree of intellectual and/or physical impairment in handicapped children is also a factor to be considered.

Sedation

Sedation is a technique in which the use of a drug or drugs produces a state of depression of the central nervous system (CNS) enabling treatment to be carried out successfully.

During sedation the patient will be able to independently maintain his or her airway, independently maintain open mouth and respond to verbal commands.

In addition the patient will retain adequate function of protective reflexes (such as the laryngeal reflex).

The drugs and techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely.

The level of sedation must be such that the patient remains conscious, retains protective reflexes, and is able to understand and respond to verbal commands.

Before we start the patient must go thorough medical, dental and anxiety history assessment.

In children respiratory depression and loss of protective reflexes may occur rapidly and unexpectedly; so we should be more careful

The clinical facilities should include suitable resuscitation equipment and emergency drugs.

Sedation requires a broad understanding in pharmacology, physiology and relevant outcomes

Informed consent is mandatory (a signed consent)

Pre-operative and post-operative instructions should be given prior to the sedation visit. (Verbal and written)

Appropriate facilities, child friendly environment and sedation trained staff are essential.

The clinician must have training in sedative techniques and to be assisted by a suitable trained nurse

The operator seditionist irrespective of gender must be chaperoned at all time

The child must be companied by an adult escort

Aims of sedation:

-To enable the provision of quality dental care

-To manage destructive behavior

-To promote a positive psychological response to dental treatment

-To retain the patient quickly to a physiological state in which a safe discharge is possible

Advantages:

-We are avoiding GA (most important one)

-Improvement in operating conditions

-Rehabilitation of dentally anxious children and adolescence

These advantages are unpredictable especially with oral sedation

There is a need for a supervised recovery and close supervision at home for the remainder of the day of the operation.

ASA (American society of anesthesiologist) classification:

Classification for the medical status of the patient

ASA I: healthy patients

ASA II: mild systemic disease (mild diabetes)

ASA I and ASA II are the only groups that can undergo sedation in the clinic

In severe systemic disease, sedation can be done but must be in hospital condition for the support system to be present if any complication happened.

Complications:

Hypoxia, nausea, vomiting, inadvertent loss of consciousness (over sedation that can end up in GA)

Morbidity and mortality increase with young age and with worsening ASA classifications.

Children are different from adults and sedation may be unpredictable. They are more likely to become hypoxic

We should monitor the sedated child

The clinical status of a sedated child:

-the patient able to respond verbally to questions

-the patient is able to maintain independently an open mouth (that’s why it’s not indicated to use mouth prop)

-the patient is able to maintain independently a patent airway

-the ability to swallow

-the child is a normal pink color

Or we can monitor the child by pulse oximeter

The pulse oximeter is a noninvasive method of measuring arterial oxygen saturation using a sensor probe placed on the patient’s finger or earlobe.

It has a red light source to detect the relative difference in the absorption of light between saturated and desaturated hemoglobin during arterial pulsation.

Child’s normal oxygen saturation is 97-100%.

Adequate oxygenation of the tissues occurs above 95%, while oxygen saturation lower than this is considered hypoxemia.

Good Luck ☺