

## CLINICAL PEDIATRIC DENTISTRY...EASY AS 1..2..3

### A Hotsheet for General Practitioners.

THE GOAL: To provide excellent clinical pediatric treatment while helping children grow into happy adult patients.

#### **Initiating Positive relationships: The Dentist...The Parent...The Child.**

Customize your own Office Policy Guide for parents, expressing who you are and what you're about. Explain your philosophy of child care, outlining and clarifying such things as why we save baby teeth, why we like to treat children away from their parents, the need for x-rays, why fluoride treatments are important, helpful oral hygiene hints and diet recommendations etc. Also included are your policies in regard to appointments, dealing with insurance and any other business and financial matters.

#### **REFER TO VIDEOTAPES: "The Children Are Coming! Ready! Set! Go!"**

**" Winning Friends And Influencing Patients....A Trilogy**

**" Excellent Adventures With Children"**

**"Three Times The Fun With Kids"**

**" Oh No! Not The Shot!"**

**" The Complete Guide To Stainless Steel Crown For Children"**

#### **THE FIRST VISIT**

- First Impressions are everything. You may not get a second chance. **Think of yourself as a teacher...a coach...a life changer for the children as well as their parents.**
- Use first name of the child right away...not "honey or tiger or beautiful or big boy."...**Intimacy.**
- Smile! Smile! Smile! ....**Warmth.**
- Think of the dental visit as a game.... Make it fun for everyone..
- **Separate children strategically from their parents as soon as possible for best one on one communication.**
- Show.... Tell.... Do.... First the familiar...then the unfamiliar. Show them what they know first.
- The toothbrush is the key. "Show me how you brush your teeth." You don't need the chair, the light or the napkin yet. Take your time. The bad news won't go away.
- Voice control...be kind and funny, but confidently firm. (applies to all members of the team)
- Be authoritative but friendly...**build confidence.**
- Control your temper even with bad behavior. **No hand over the mouth.**
- No papoose boards or other artificial restraints. **Certainly not without parental consent.**
- No sedation or Nitrous Oxide. **Mind altering drugs blur attentiveness and do not cure apprehension or phobia.**
- No elective dentistry at the first visit. Don't exceed child's ability to absorb.

#### **THE RATIONAL APPROACH TO DEALING WITH CARIES IN THE YOUNG CHILD**

Dental Caries is still a major problem in young children due to hereditary patterns, permissive parents, no dietary parameters, frequent eating, poor and infrequent brushing, prolonged use of the baby bottle, and the failure to visit the dentist for treatment in a timely manner.

#### **Caries Prevention**

##### **No Bottles or Sippy Cups in Bed.**

- Children are often snacking throughout the day. It's not the amount of food...**it's the frequency.**
- Between meal snacks should be fruit, cheese, nuts, etc...not processed carbohydrates..
- Discourage the use of sippy cups all day and the carrying around of snacky bags.
- Try to limit the amount of "juices" in favor of milk or water.
- Postpone the introduction of cookies, cake and candy in the baby's diet.
- Show parents how to make brushing fun...Brush from behind. "Sing a Song". Etc
- Try to brush after eating whenever possible.
- Recommend first visit to dentist at 1 year... no pressure educational visit.... discover problems early.
- Teach parents how to begin cleaning an infant's mouth...even before any teeth erupt.

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#### Tooth Brushing

- Demonstrate to parents the “behind the child hugging technique for brushing teeth..
- Adult supervision of young children is essential for proper hygiene and child safety.
- Minimize the amount of toothpaste with very young children who can’t rinse or spit.
- Use a pleasing tasting toothpaste that contains fluoride.
- Use a visually appealing toothbrush with soft bristles and a comfortable handle
- Remember to make it fun.

#### Fluoride...How much is enough? How much is too much?

##### Systemic...

- **The single most effective and economic method for preventing dental decay**
- In the Water Supply...1.0 ppm at filtration plant...0.7 ppm at faucet.
- Prescribe fluoride vitamins daily in the absence of fluoride in the water supply.

⇒ **Don’t do both!!**

##### Fluoridated Toothpaste

- Synergistic with fluoride in the water supply.
- Reminder: Don’t overdo toothpaste for children that can’t rinse or spit.

##### Topical Fluoride Treatments At The Dental Visit

- Synergistic with fluoride in the water supply.
- Gear application method to age of child.
- Begin with Q-Tips, then gauze and cotton rolls...the graduate to trays etc.
- Fluoride varnishes may be the most effective.

##### Fluoride Rinses

- Indicated for older children and adults with high caries susceptibility.
- Beneficial for children and adults undergoing orthodontic treatment.

##### Fluorosis (Prevention)

- Don’t let baby eat toothpaste...small amount on brush.
- Don’t use fluoride vitamin if water supply has fluoride.
- No fluoride rinses for children who can’t spit out.
- **Special Note:** Bottled water may or may not contain fluoride...adjust recommendations accordingly.

#### SEALANTS

##### Indications:

- Children with deep grooves in their posterior teeth.
- Children with a history of high susceptibility.
- Erupting 6-year molars most definitely.

##### Method:

- Technique sensitive. Keep field dry with rubber dam or cotton rolls and gauze.
- Only use a bur to remove suspicious spots. Don’t invade intact enamel.
- If you did channel suspicious grooves, incorporate some flowable composite along with sealant.
- Monitor sealants carefully every checkup for touching up or replacement.

**Important Note:** Once you’ve placed sealants, you’re married to them. They must be watched and re-dressed or replaced as necessary. Explain vulnerability of sealants to parents. Emphasize the necessity for continuing regular checkups..

**Caution:** Address any Bisphenol-A issues if they arise.

#### BREAST FEEDING AND NURSING BOTTLE CARIES

- Breast feeding on demand and bedtime baby bottle use are both implicated in early childhood caries.
- Parents are often not aware of the damaging effects of prolonged nursing or bottle-feeding.

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- Urge expectant parents to not initiate the bottle feeding at night habit.

#### The Bottle Weaning Process

- Cold turkey is generally the easiest and best way.
- Counsel parents about eating habits and proper nutrition as child moves away from bottle.
- The baby doesn't eat well because he's constantly drinking from a bottle...full stomach.... not hungry.
- A child needs to practice chewing and swallowing solid foods...part of maturing process.

#### LOCAL ANESTHESIA...The Dreaded Shot. (Refer to "Oh No! Not The Shot" Videotape)

{ Criterion For Using local anesthesia: If you anticipate causing pain give the shot.

- **Goal:** To prevent or dispel the fear of the needle once and for all. **The painless injection is the defining moment between the patient and the dentist**
- Place patient in chair in a more upright position for better eye to eye contact.
- "Battle stations" position for best control.. Dental assistants in passive restraint position.
- Eyes open... not closed. Don't leave children to their own imagination
- Talk! Silence is deadly. A combination of guidance,distraction and diversion.
- Wiggle! Wiggle! Pull tissue past the needle rather than sticking the needle in.
- Show the needle afterwards. "Guess what we did! **"Get the monkey off your back"**.
- **Never leave patient alone after injection.**

#### Infiltration

- Topical anesthetic...if not for pain control then for the psychological effect.
- Teeth biting together so soft tissues are flaccid and not taut..
- The needle moves toward the tissue and the lip is pulled towards the needle in a wiggling motion.
- Use a minimum of anesthetic. It's not the amount of anesthetic. It's the accurate placement.
- Introduce a little anesthetic on the first thrust. Come out. Show needle and then go back in.
- Don't inject too high or too low into the buccal fold... Avoid the post-op eye and droopy lip.
- Diversion: Wiggling, talking, eye contact. Background music and television are too passive.
- Show the needle and repeat again... It's a learning experience.

#### Mandibular Block

- Similar to infiltration but wiggle the whole head.
- Don't go to bone on first injection. Part ways in... inject a little and come out. Then back in again.
- Remember finger rests, battle stations position, talking etc.
- If first entry is cross arch, then go in parallel to teeth on second thrust. If you're high on the first entry, then go in low on the 2<sup>nd</sup>. (like framing the shot in photography).
- Use infiltration technique anterior to 2<sup>nd</sup> primary molar...Use mandibular block, posterior to 1st primary molar..

#### Palatal

- The *step* technique. First entry between collar of gingival and tooth . Note blanching of tissue and then a series of steps to middle of the palate.
- Small amount of anesthetic. With each entry, note progressive blanching.
- Use gauze to prevent dripping onto tongue.
- Finger pressure on the spot before each entry.... distraction and conditioning.

#### Which Needle? Which Anesthetic? How much?

- It's not the needle size... It's the technique.
- 27 gauge is a good universal choice.
- Long needles for mandibular injection...short needles for maxillary injections.
- Ideal anesthetic for children: *quick* onset, *medium* working time, *and short* lingering time.

**Mepivacaine 3% without epinephrine.**

- Dental students or more deliberate dentists who work a little slower...need more time.

**Lidocaine 2% with 1:100,000 Epinephrine**

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- **Note: Think less anesthetic for young children...Location is Everything. You want them to be sufficiently numb without overdoing it**
  - E.G. Maxillary 1st primary molar ...DO amalgam. ¼ carpule mepivacaine (no epinephrine)
  - Maxillary 1st and 2<sup>nd</sup> primary molar operative 1/3 to 1/2 carpule total amount.
  - Maxillary 1st primary molar extraction ¼ carpule in buccal fold and 1/8 on palatal side. (lidocaine with epinephrine).
  - e.g.Mandibular 2<sup>nd</sup> primary molar ..stainless steel crown and pulpotomy and mandibular 1<sup>st</sup> primary molar extraction (Mandibular Block ½ carpule mepivacaine then infiltrate around first primary molar ( Lidocaine with Epinephrine ¼ carpule.)

**Point of Information:** Septocaine is a very effective local anesthetic but do not use for mandibular blocks on young children.

- **Factors Influencing Success or Failure of Local Anesthesia process:**
  - Very overwrought patient. Deal with the behavioral issues first.
  - Poor chairside manner .....indifferent psychological technique.
  - Inadequate application of clinical skills.

#### **DRILLING : Is it numb or not? Patient says it hurts. How do you know?**

Introducing the handpiece: The high-pitched sound... the water spray... the feel... Introduce them separately. The patient may interpret anyone of those phenomena as pain. If you think it hurts...administer a little more anesthetic.

**Note:** Actual drilling time for any pediatric dental procedure is short.

Light foot on pedal... short brush strokes with bur.

Use high-speed handpiece for outline form and extension and entering dentin.

Switch to slow speed handpiece with large round bur to excavate caries.

**Finger rests! Finger rests! Finger rests!**

#### **Treating Nursing Bottle Caries Syndrome: Usually involves maxillary primary anterior teeth.**

**Decision:** Can these teeth be saved? (age, permanent tooth development, condition of roots of decayed incisors). Do not base decision on behavior of child or financial considerations or insurance.

The issue is not about saving maxillary anterior space but speech, function and esthetics are important,

- Examine the radiographs. If the roots are intact and the child is under 5 yrs old... restore the teeth.
- Mobility, fistulas, radiolucencies do not necessarily doom the tooth to extraction...**It's about the roots.**
- Major caries means full coverage with stainless steel crowns,...then opening the faces with composite.
- If pulps are exposed... think pulpotomy. Radiolucency at apex... think root canal treatment.
- Conservative removal of tooth structure minimizes drilling time.. The stainless steel crown should fit the tooth not the other way around.
- Break Contacts and clear occlusion. **That's it!! Don't remove undercuts.**
- Try a crown on for size. Slightly big? Crimp the crown a little more. Slightly too small.  
Reduce the tooth a little...crown should snap into place and fit snugly.
- Use a large round bur (#8) on slow speed handpiece to remove decay.
- If pulp is not exposed, place a base and cement crown.
- Composite crowns, pre-finished laminated crowns are other restoration choices  
(discussion of pulp therapy to follow)

#### **Radiographs... When? Why? How?**

- Radiographs should be taken for a specific purpose....not as an inflexible routine.  
(2 year olds do not need a full series of x-rays)
- Every child between 5 and 7 years old should have a Panoramic x-ray
- Every Child between 10-12 years old should have a Panoramic x-ray  
(Coordinates with time frame of major exfoliation of primary teeth and eruption of permanent successors).Diagnosis of missing teeth, extra teeth, malformations... other

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abnormalities..

- Bite wing x-rays when you can't see between the teeth and repeated at necessary intervals depending on caries susceptibility.
- **Other Indications for radiographs:**
  - Infection
  - Trauma
  - Pain
  - Prior to extraction
  - Late eruption or early eruption patterns

#### Over-View Of Restorative Dentistry Procedures For Children

- **Think..... Do It Once and Do It Right!**
- Caries is still a major problem in young child patients.
- Yes you should restore baby teeth even though they're going to fall out.
- Quality should not be sacrificed. Restorations should look good and feel good.
- Use bases or liners where required to avoid temperature discomfort.
- **Amalgam**... still the most economic and the most effective restorative material.
  - Strength, Durability, Ease of placement.
  - Prep teeth with #139 or #35 to maximum undercuts and retention.
  - Extension for prevention and outline form, boxing etc.
  - Keep field dry with gauze and cotton rolls or rubber dam.
  - Carve and contour with same diligence as if it were a permanent tooth.
- **Composite ....** Fast improving esthetic alternative
  - Require frequent follow up at every checkup.
  - Especially suitable for less invasive lesions...hypoplastic spots etc.
  - Technique sensitive. (Clean and Dry).
  - Tooth preparation...undercuts and outline form less critical.
  - Choose best material for task. (Macrofil, Microfil, Hybrids)
    - **Flowable** (Microfil) for very superficial caries and low stress areas.
    - **Condensable** (Macrofil) for biting surfaces and other high stress areas.
  - Use liner-buffer to avoid hot-cold effect.
- **Posterior Stainless Steel Crowns..... The Life Savers ( Refer to Complete Guide to Stainless Crowns For Children Video)**
  - **Considerations:**
    - Age of patient and projected life of tooth
    - Often the most conservative approach in rampant caries cases.
    - Severely decayed teeth...multiple surfaces....not suitable for multi surface restoration.
    - Cracked or fractured posterior teeth. Severe hypoplasia or attrition.
    - Teeth treated via pulpotomy or pulpectomy.
    - General anesthesia cases... When in doubt....full coverage.
  - **Advantages:**
    - Strength and durability
    - Less invasive tooth reduction
    - Fast and easy....shorter chair time.
  - **Method:**
    - Reduce occlusal surface enough to clear occlusion. (Ball shaped diamond bur)
    - Reduce inter-proximal areas enough to break contact.with tapered diamond bur
    - Try on crown...a little big? Crimp crown. Very big...go down a size.
    - A little small, do minimum tooth reduction..
    - **Don't remove undercuts.** Crown should spring over them and seat from lingual to buccal.

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- Have child bite crown firmly into place with tongue depressor. Don't leave it high.!
- Trim with scissors and crimp with pliers, accordingly.
- If pulp therapy is indicated, fit crown first then do pulp treatment.
- Cement crown with your favorite cement.

## PULP THERAPY

### Criteria for performing pulp therapy to save a broken down tooth.

- **Age of child...**
  - Primary central and lateral incisors exfoliate between 6-8 yrs. old.
  - Primary cuspids exfoliate about 10-11 years old.
  - The primary molars exfoliate between 10- 12 years old.
- **Position of tooth in the arch...**
  - Second primary molar is more important than the first primary molar...especially before the eruption of the first permanent molar.
  - Posterior teeth are of more importance than the anteriors in terms of maintaining arch length.
- **Condition of Tooth Itself ...**
  - The root structure is everything. The tree needs roots and a trunk no matter what. Mobility, infection, fistulas, abscess, pain etc. are not the deciding factors... mean nothing. They are all in many instances reversible.
  - If the roots have undergone significant resorption... think extraction and space maintenance.
  - Poor patient cooperation or economic considerations should not play a role in your decision to save a tooth.
- **Pulp Capping**
  - The lazy solution to pulp exposure. You nick the pulp and say "oops" and throw a little white stuff on the exposure and try to forget it happened. Success is less than 50% with primary teeth, so why do it?
- **Pulpectomy**
  - The complete removal of all pulp tissue is a definitive alternative for treating pulp exposures in primary teeth but it may be overkill since a pulpotomy is very nearly as reliable. The canals are often extremely curved and sometimes very narrow. Filling technique is not always easy. Remember, don't use gutta percha or other permanent type filling materials because the roots will be undergoing resorption over the next few years. ZOE paste with a drop of formocresol or parachlorophenol would be the filling material of choice. **Note:** Complete pulpectomy treatment of a primary tooth may hasten root resorption.
- **Pulpotomy**
  - The removal of all pulp tissue in the coronal portion of the affected tooth. Success rate is at least 95% when diagnosis and timing is correct. Two choices of treatment depending on symptoms.
- **One visit complete pulpotomy:** Patient has no severe chronic symptoms... pulp is probably vital... roots intact... no swelling, fever or signs of infection.
  1. Anesthetize and open into pulp chamber with hi-speed # 35 inverted cone or similar type bur. Switch to slow-speed handpiece and #8 round bur and excavate or shovel out decay and all coronal pulp tissue.
  2. Place cotton pellet moistened with formocresol or parachlorophenol into chamber and let sit for at least 2-5 minutes. Sometimes excessive bleeding is encountered which usually subsides by allowing the cotton pellet to remain a little longer. Minor oozing is not a matter of concern.
  3. Remove cotton pellet and fill the chamber with a Zinc Oxide and Eugenol paste with 1 drop of the formocresol. Place a stainless steel crown or your restoration with cement base.

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- **Two visit incomplete pulpotomy:** Indicated where significant symptoms are encountered such as chronic pain at night, swelling, fever pain on percussion or biting down... all indicative of a necrotic pulp and periapical involvement.
  - Anesthetize and open into pulp chamber with # 35 inverted cone on hi-speed handpiece. Switch to slow-speed handpiece with #8 round bur. Excavate all caries and remove all pulp tissue in chamber.
1. Place cotton pellet moistened with formocresol or parachlorophenol into chamber and seal in with IRM or other temporary cement. If patient presents with fever etc., prescribe an antibiotic. Curette fistula if present. See patient again within a week to 10 days to follow up on treatment and complete pulpotomy.
  2. Assuming improvement has taken place but the symptoms have not resolved completely in 10 days, re-treat or do a pulpectomy. Don't give up so easily. Restore tooth with full coverage. (stainless steel crown)

**Note:** Evidenced based research reveals no criteria for eliminating formocresol or parchhorphenol when they are used properly and conservatively as intended.

### Extraction of Teeth

Children may need extraction of primary teeth for various reasons including: persistent infection and pain that doesn't respond to other treatment. permanent teeth are erupting and primary teeth are not exfoliating, eruption guidance and serial extraction or in conjunction with orthodontic treatment

1. Think gentle... fingers and wrist pressure... no arms.
2. Make certain your local anesthetic has taken effect. Numb up around the extraction site for good luck.
3. Use turning motion on anterior teeth (unscrew the teeth). Easy rocking motion on posteriors. Roots of primary molars are often severely curved. Very difficult to elevate root and not damage underlying developing permanent successor. Be careful. Go in the direction the tooth wants to go. Don't force it.
4. Make sure bleeding has stopped before dismissing child from operator. If child won't bite on gauze, then hold it in place until bleeding subsides.
5. Give post-extraction instructions in written form.... **and verbally.**
6. Do a phone check on all patients at the end of the day.

### EMERGENCIES AND TRAUMA

With children, emergencies can't wait, as is sometimes the case with adults. They must be addressed more immediately...preferably treated the same day. An emergency can be everything from a cold sore to a loose appliance, from a fractured incisor to a pizza burn, from a swollen face due to a dental infection, from a broken filling to an avulsed tooth to everything in-between,

- Cold Sores or herpes simplex or aphthous ulcers will normally run their course without treatment in 3-5 days unless we're dealing with a superimposed bacterial infection (strep), which then calls for a throat culture and an antibiotic in cooperation with the pediatrician. Palliative measures such as drinking cold milk and or the application of topical gel are somewhat helpful in treating the symptoms.
- Infections due to neglected caries: Make the diagnosis on the basis of age, condition of the tooth, position in the arch and the status of the root structure and treat via pulp therapy or extraction as warranted.
- Infections in soft tissues (gingiva, mucosa, tongue, cheeks etc.). Establish etiology and treat accordingly. E.G. popcorn kernel, exfoliating tooth, dentoalveolar infection.
- Avulsed or extruded anterior primary tooth. Even if a child is 3 years old or under try to re-implant and splint the primary tooth. The success rate is better than you think. The same course of treatment should apply to an avulsed permanent tooth with even more dedication and enthusiasm. **Note:** This procedure has the best prognosis when the patient is seen within an hour or two of the accident but we've had good results over a number of years where treatment has been delayed for up to 24 hours.
- An intruded anterior primary tooth... if pushed straight up, will hopefully re-erupt. If there is no sign of movement after 3-4 weeks, extract the primary tooth so as not to impede development and eruption of the permanent successor. The same course of treatment applies to a permanent tooth, but allow more time for re-eruption (much more likely), since we hope to keep the tooth for years to come. When the tooth has re-erupted, perform a pulp test periodically to make sure pulp is vital, In the case of a non-vital pulp, with or without darkening, a root canal treatment is indicated.

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- Ankylosis of teeth does not occur with the frequency that some clinicians suggest. Furthermore it is often possible to move traumatized teeth as part of routine orthodontic treatment at some later date.
- Fractured incisors can present a number of different possibilities and dilemmas in young children depending on the status of root completion:
  1. A minor enamel fracture, which can be lightly smoothed and shaped with no further treatment.
  2. A fracture involving the dentin bonding is performed to restore esthetics and function.
  3. A fracture that involves dentin and also extends into the pulp tissue. (root is not completed) Do a complete pulpotomy (remove entire coronal portion of the pulp) and then perform the bonding procedure.
  4. Patient presents with a fractured incisor and brings the fragment that has broken off. If the pulp is exposed, do the pulpotomy first and then bond the fragment into place. Expect a very positive, long-term outlook. For best results, the fragment must be kept moist in order to prevent dehydration and discoloration.
  5. Root Fractures (The most serious type of fracture): If the break occurs at the apical 1/3, the prognosis is good. The Apical 1/3 portion may resorb but root canal or apicoectomy are possibilities for the future. If the fracture is in the middle of the root, attempt to splint the tooth into place, butting the apical portion of the root to the coronal portion. Use the radiographs to determine position. Sometimes you will get bridging across the fracture area like a scar. Other times the apical portion of the root will undergo resorption leaving the end blunted and foreshortened. As long as there are no negative symptoms, try to hold on to the traumatized tooth as long as possible. But the prognosis is guarded
  6. If the root fracture occurs at the cervical portion of the root, a determination must be made as to whether it is possible to construct a post and core using the remaining root structure or whether extraction is indicated. With a child, always think "save the tooth." Extraction is always an option.
  7. Pulp testing can be confusing. A tooth, which has just undergone trauma, may test non-vital because it's in shock. Don't jump to conclusions. On the other hand, when the trauma is long past and you get a negative response, you can assume that the pulp is non-vital. Beware of false negatives.
  8. Apexification is indicated where trauma has occurred involving the pulp but the pulp at the apical portion of the root is wide open. Placing CaOH into the canal allows time for the root to go through its completion process. (apices often end up blunted but complete) Once the root formation is complete, root canal treatment can be initiated.

#### Tenderness to Percussion

One of the most important diagnostic tests a dentist can perform. It tells you so much. Tenderness on percussion stemming from a long past trauma probably means a non-vital pulp and root canal treatment. Whereas, the same symptom following an accident which occurred an hour before simply calls for splinting the sensitive tooth or teeth and rechecking the situation at subsequent visits. Timing is everything.

**Remember:** In any kind of trauma case, documentation is important so you have a base line comparison for assessing progress and for legal purposes as well. These cases sometimes end up in some kind of dispute, which requires verification via your records. Take radiographs and photos and provide an accurate description in the patient's chart.

#### ORAL HABITS

- Prolonged breast feeding, beyond the age of two and especially when the mother chooses to have the child in bed with her at night can result in significant nursing caries. Counsel the mother about the ramifications without being accusatory or overbearing.
- Baby bottle feeding where the baby takes the bottle filled with juice or milk to bed or walks around all day with it in his mouth often results in "baby bottle caries" which if not caught early, causes sufficient damage to warrant full coverage with crowns and pulp therapy. If neglected, the more serious cases will require extraction of the upper anterior teeth, which are most significantly affected. In addition, prolonged sucking on the bottle can lead to open bite, constricted upper arch, posterior cross-bite and an anterior protrusion because of the overzealous sucking activity. Also, the excessive bottle-feeding throughout the day seriously



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reduces the child's appetite at mealtimes prompting the parents to further intensify the bottle use... a vicious cycle. Wean the child from the bottle at approximately 18 months old if possible.

- **Sippy-Cups** have taken over a toddler's daily life. The attachment to the sippy cup extends from the bed, to the table, to the TV, to the nursery school, to the store to everywhere the child goes. So the teeth are constantly being bathed in juices and milk and the results are the same as nursing bottle syndrome. Wean the child from the sippy as soon as possible. Parents are worried about the child spilling all over the house. The rule: We eat and drink in the kitchen. Again the appetite for "normal" food is seriously affected.
- **Pacifiers** are given more credit than they deserve. From the time the baby opens its mouth to cry, somebody sticks a pacifier in the mouth. The truth be told, the pacifier is for the adult who's frustrated by the crying. Intermittent use of the pacifier does not cause damage. But as with all habits, duration and severity matter. The baby that aggressively sucks his pacifier, day and night will cause negative bone and tooth changes. The open bite and the constricted maxillary arch are commonplace. Either never introduce the pacifier or throw it away at the earliest opportunity.
- **Finger sucking:** Some babies are sucking their fingers in utero. Some children are still sucking their thumbs into the teen years. No one questions the fact that aggressive and prolonged sucking of the thumb will cause the anterior protrusion, the constricted maxillary arch, the latent tongue thrust habit and subsequent speech problems. When treating these cases, think passive approach, the bribe, short-term goals (a day at a time) and positive motivation, not punishment. Aversive appliances without the proper motivation of the child are non-productive.
- **Bruxism:** Persistent tooth grinding in young children can result in marked attrition of the primary teeth and later the permanent successors. If the primary molars suffer extensive attrition, the vertical dimension is considerably reduced, which compromises the eruption of the permanent teeth. Since a child's mouth is in a constantly growing and changing state, a bite plate will be impractical. The alternative is to cover the primary molars with stainless steel crowns or even place composite overlays on the primary molars to keep the bite from closing and prevent further damage to the tooth structure..

### INTERCEPTIVE ORTHODONTICS

This subject is a complete course onto itself. As a general philosophy it is important that the teeth and supporting bone and soft tissues develop normally. Sometimes early intervention (1<sup>st</sup> phase) can positively enhance the function and appearance of a young child and either avoid comprehensive orthodontics later or lessen the time of the comprehensive treatment. Care must be taken not to duplicate orthodontic treatment, which can be accomplished more comprehensively later on. You don't want to tire the child out wearing appliances in early childhood and then go through prolonged orthodontic treatment as a teenager as well, so we pick our spots carefully. Let's just make a short list of some areas that should concern us. Whether you provide the treatment or refer the child to a specialist, the involved general practitioner should be knowledgeable.

- Early eruption and late eruption: How early is too early and what's late? Review the average eruption dates for the primary and permanent teeth.
- The assessing and preserving of arch length: Once you lose it, you may not get it back. Premature loss of primary molars: Think space maintenance.
- Crowded teeth: Eruption guidance... serial extraction??
- Anterior crossbites, posterior crossbites: What is the etiology? Treat now or later?
- Recognize the problem. If you're knowledgeable and capable of treating the patient... do it. When in doubt, refer the case to an orthodontist.
- **A Word To The Wise:** Work within your range of knowledge and experience. Don't venture into unmarked waters. You could drown. The first orthodontic consultation could be as you discover the first signs of abnormality. If early intervention is not indicated, then most children are ready for full orthodontic treatment between 10-12 years of age.

### ANOMALIES.... Something is Funny in Denmark!

- Macrodonia...excessively oversized teeth..
- Microdonia...excessively undersized teeth
- Congenitally absent teeth or supernumerary teeth.

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### A Hotsheet for General Practitioners.

- Submerged or over-retained teeth.
- Neo-natal teeth
- Pegged lateral incisors
- Enamel and dentin aberrations...amelogenesis and dentinogenesis imperfecta.
- Fusion, Gemination, Twinning, Concrescence
- Odontoma, Cementoma
- Ectopic Eruption
- Intrinsic stains (tetracycline stain etc.) Extrinsic stains (iron tonic, tea, medications).
- Hypocalcification and Hypoplasia
- Submerged teeth, over retained teeth.

#### **Special Needs Children**

This subject requires a great deal of in-depth discussion. The numbers of children we will encounter needing our special skills and attention are increasing alarmingly. Children with Autism Spectrum Disorder, Down Syndrome, Cerebral Palsy and other neuro- developmental disorders will present opportunities and challenges for all of us. Please watch for a new publication of an article entitled “**Autistic Spectrum Disorder...A Challenge for Dentists**” in the October 2010 issue of Dentistry Today.

**Special Note: All of the information provided in this Hotsheet is intended to be a basis for stimulating discussion and should be supplemented with further reading and personal research.**