

Pediatric Special Care Dentistry

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Special Health Care Needs

- Definition: Persons with a physical, developmental, mental, sensory, behavioral, cognitive, &/or emotional impairment or limiting condition that requires medical management, health care intervention, &/or use of specialized services/programs

Common Special Needs

- Asthma
- Down Syndrome
- Developmental/Behavioral Disabilities
 - Autism
 - Asperger Syndrome
 - ADHD
- Ectodermal Dysplasia
- Craniofacial malformations
- Cerebral Palsy
- Amelogenesis Imperfecta
- Psychological Limitations
 - Anxiety
 - Eating disorders
 - Nervous habits

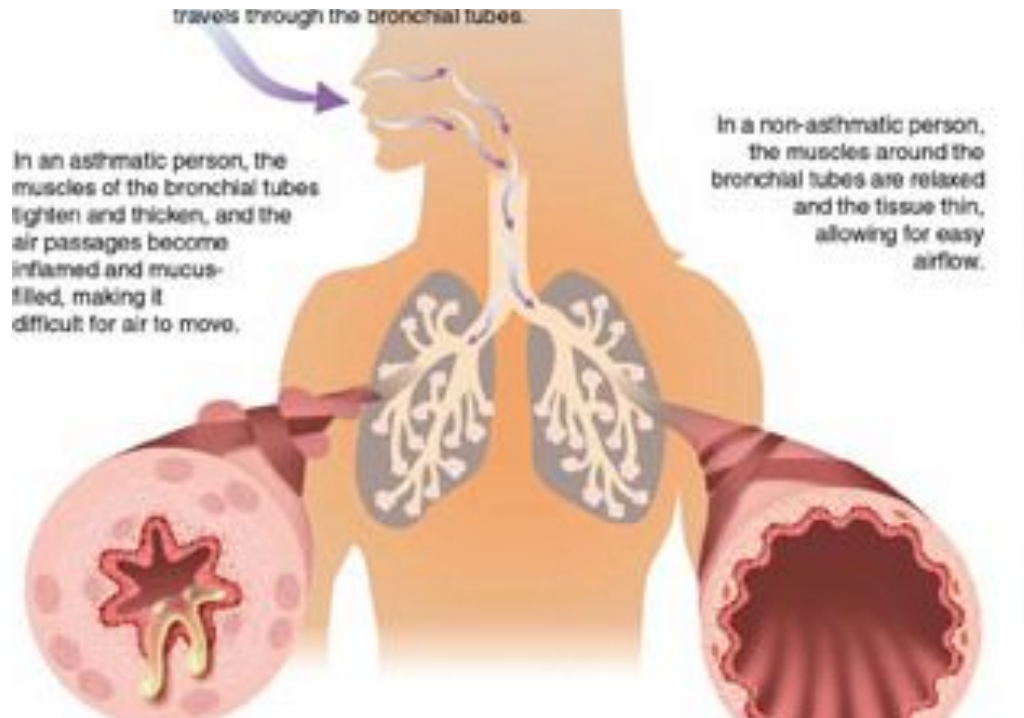
Asthma

- Definition: A chronic disease involving the respiratory system in which the airways occasionally constrict, become inflamed, and are lined with excessive amounts of mucus, often in response to one or more triggers
- Asthma Classification

	Wheezing	Night symptoms	Exercise tolerance
Mild	< 2 days/wk	None	Good
Moderate	2-5 days/wk	Some	Limited
Severe	Daily	Frequent	Poor

Understanding an Attack

- An asthma attack occurs after there is a *trigger*
- Multiple phases



Common Oral Findings

- Increased dental caries
- More erosion
- More calculus
- More gingivitis
- Throat irritation (steroids)
- Candida infections
- Dental facial effects
 - Increase occurrence of posterior cross bite
 - Increased anterior facial height
 - Increased overjet
 - High palate

Dental Considerations

- Good preventive program
- Rinse/drink water after inhaler use
- Chronic nebulizer patients □ may require antifungal treatment
- Afternoon appointments (2pm to 6pm)
- Review history of last attack/last medication use/frequency of attacks/last hospitalization
- Avoid prolonged supine positions
- Be aware of dental instrument placement
- Reappoint if patient is wheezing, has difficulty breathing
- Use rubber dam

Down Syndrome

- Definition: Chromosomal disorder caused by the presence of all or part of an extra chromosome #21

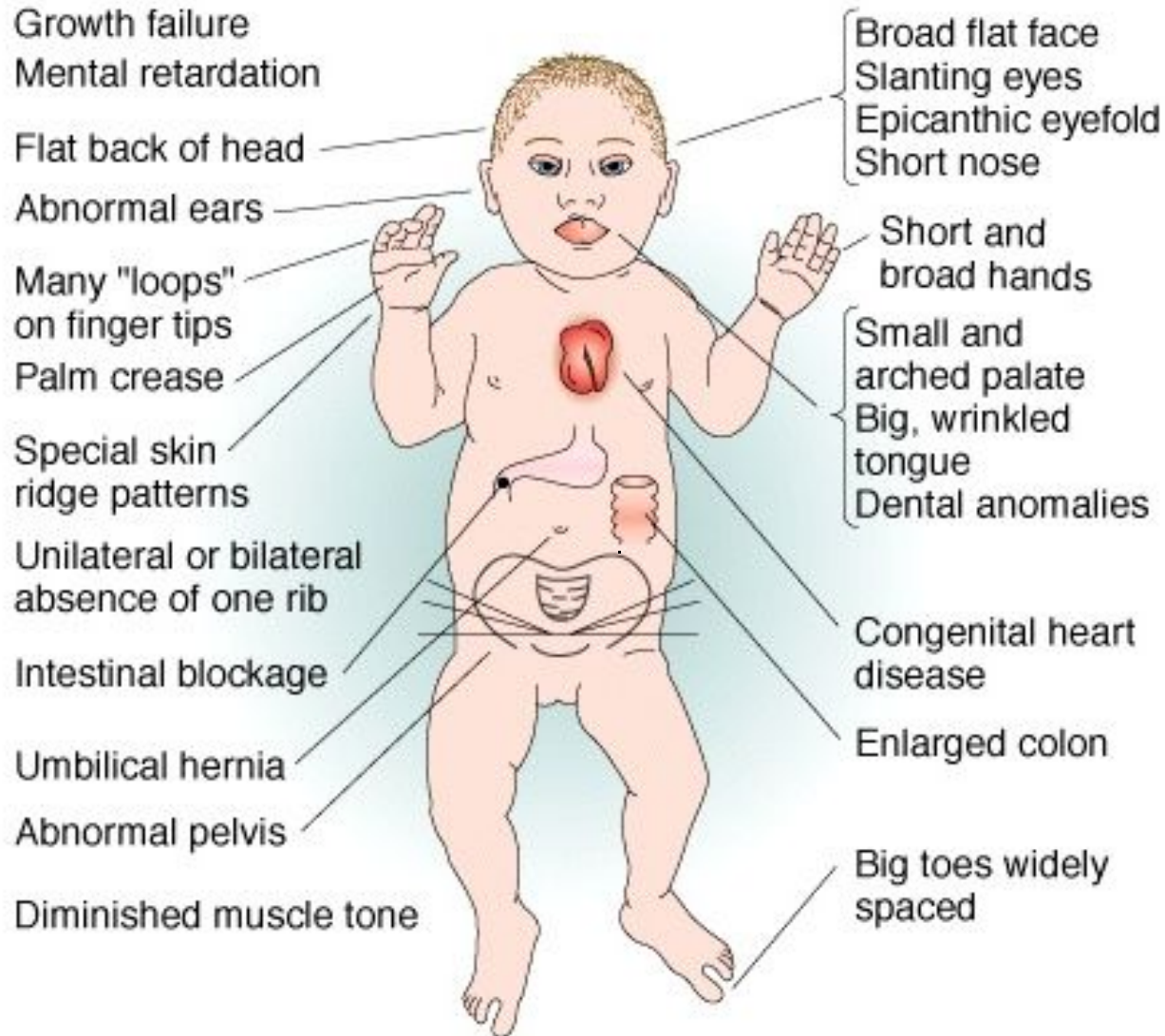
Common Oral Findings

- Microdontia
- Hypodontia
- Macroglossia
- Fissured tongue
- Class III malocclusion
- Open mouth posture
- Decreased caries risk
- Increased periodontal risk
- Delayed eruption/overretained teeth
- Atypical root morphology
- Enamel hypoplasia



Dental Considerations

- Congenital heart disease
- Compromised immune system
- Chronic upper respiratory problems
- Atlanto-axial instability
- Varying degree of intellectual impairment



(a)

Image taken from: <http://fig.cox.miami.edu/faculty/Dania/dawn.jpg>

Developmental/Behavioral Disability

- Autism spectrum disorder is a general term for a group of complex disorders of brain development. These disorders are characterized by varying degrees of difficulties in social interaction, communication and repetitive actions.

Signs & Symptoms

- Doesn't respond to his/her own name
 - Acts deaf
- Does not smile socially
- Does not point or use gestures by age 1
- No "babbling/baby talk" by 12 mos or no words by 16 mos
 - Talks but does not communicate
- Loss of any social/communication skills
- Lack of spontaneous/make believe play
- Little or no eye contact
- Engages in repetitive behaviors
- Overly focused interests

Asperger Syndrome

- Previously, Asperger and Autism were subcategories under the heading of Pervasive Developmental Disorders. The American Psychiatric Association has now recategorize both conditions under ASD.
- Difference with Asperger is there is no general delay in language or cognitive development. It is characterized by difficulties in social interaction and restricted patterns of behaviors/interests. Typically of normal or above normal intelligence

Common Oral Findings

- Varies depending on the severity
 - Increased caries
 - Poor oral hygiene
- Overall, few unusual dental findings

Dental Considerations

- More for autism than Asperger
 - Sensory sensitivity
 - Light, dental tools, water, noise, staff
 - Unpredictable bodily movements
 - Self injurious behavior
 - Obsessive routines/repetitive behaviors
 - Obtain thorough medical & dental history
 - Treatment with GA

Attention Deficit Hyperactivity Disorder

- Most common mental disorder among children
- Hyperactive and unable to control their impulses
- Difficulty focusing/paying attention
- Three subcategories
 - Inattention
 - Hyperactivity
 - Impulsivity
- Diagnosis has criteria of 9 factors
 - Diagnosis for under 17 years (meet 6 of 9 criteria)
 - Diagnosis for over 17 years (meet 5)

Ectodermal Dysplasia

- Definition: Hereditary condition in which there are abnormalities of the cranial-facial structure, digits, and 2 or more ectodermal structures
 - Hair
 - Teeth
 - Nails
 - Skin
 - Sweat glands
- There are many variations of this condition
- Diagnosis



Common Oral Findings

- Congenitally missing teeth
- Peg shaped teeth
- Enamel hypoplasia
- Increased dental caries
- Diastema
- Thick lips
- Large chin
- Underdeveloped alveolar ridges



Dental Considerations

- Caries control
- Cosmetic dentistry
 - Multiple sets of dentures as the child ages & the maxillo-mandibular structure changes
 - Full coverage crowns



Craniofacial Malformations

- Cleft lip/palate
 - Definition: The sub-division of the body's lip and palate during gestation



Cleft Lip & Palate

- Cleft lip classification

- **Class I:** Unilateral notching of the vermillion not extending into lip
- **Class II:** Unilateral notching of the vermillion border with the cleft extending into the lip but not including the floor of the nose
- **Class III:** Unilateral cleft of the vermillion border of the lip extending into the floor of the nose
- **Class IV:** Any bilateral cleft of the lip whether it is incomplete or complete notching



- Cleft palate classification

- **Class I:** Involves only the soft palate
- **Class II:** Involves the soft & hard palate but not alveolar process
- **Class III:** Involves both soft & hard palates & alveolar process on one side of the premaxillary area
- **Class IV:** Involves both soft & hard palates & continues through the alveolus on both sides of the premaxilla, leaving it free & often mobile



Oral Findings/Dental Considerations

- Complications
 - Feeding difficulty
 - Speech difficulty
 - Excessive air intake (burps often)
 - Choking
 - Nasal discharge
- Treatment
 - Surgery for repair
 - Intraoral devices to mold lip & palate
 - Bone grafts in severe cases

Fronto-Nasal Dysplasia



Cerebral Palsy

- Definition: Cerebral palsy refers to any number of neurological disorders that permanently affects body movement and muscle coordination. It is due to damage to the developing brain either during or shortly after birth.
- Although cerebral palsy affects muscle movement, it isn't caused by problems in the muscles or nerves - it is caused by abnormalities in parts of the brain that control muscle movements
- This is the most common physical disability among children

Characteristics

- Eye problems
- Delayed reflexes
- Facial grimacing
- Swallowing difficulties
- Poor balance
- Hearing loss
- MR in ~50% of cases
- Behavioral problems

Dental Considerations

- Increased caries risk
- Enamel erosion
- Poor gingival health/POH
- Heavy calculus (if fed with G-tube)
- Malocclusion □ Overjet & spacing
- Delayed eruption of permanent dentition
- Bruxism common
- Increased/sensitive gag reflex
- Drooling
- Often requires dental treatment with GA

Amelogenesis Imperfecta

- Inherited disease
- 1 in 700-15,000
- Subtypes

Type	Clinical Appearance	Enamel	Radiographic Appearance	Inheritance
Hypoplastic (Type 1)	Normal to opaque white to yellow brown	Thickness varies with grooves, furrows and pits	Normal enamel thickness	AD, R, X-linked
Hypomaturation (Type II)	Creamy opaque to yellow brown, teeth are soft, dentinal sensitivity, open bite	Normal thickness with easy enamel chipping	Enamel contrast similar to dentin contrast	AD, R, X-linked
Hypocalcified (Type III)	Opaque white to yellow brown, rough enamel surface, dentinal sensitivity, open bite, heavy calculus	Normal thickness with easy chipping	Enamel contrast similar to dentin contrast	AD, R
Hypomaturation/hypoplasia/taurodontism (Type IV)	Whilte/yellow, brown mottled teeth	Thin enamel, hypomineralized and pitting	Enamel contrast roughly similar to dentin, large pulp chambers	AD



Psychological Limitations

- Anxiety
 - H/o traumatic experience
 - Innate, unprovoked, un-triggered
- Eating Disorders
 - Anorexia Nervosa
 - Bulimia Nervosa
- Nervous Habits
 - Nail biting
 - Lip licking
 - Self injurious behavior

Questions??

