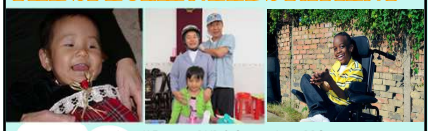
DENTAL MANAGEMENT OF THE SPECIAL NEEDS PATIENT



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Financial Disclosure

Speaker Name: Lynn K Fujimoto DMD
Name of Institution: NYU Langone Pediatric Dentistry, Hawaii Site
Relationship to Institution: Faculty member, Associate Director

Neither I nor members of my immediate family have any financial interests to disclose relating to the content of this presentation.

Goal: The purpose of this presentation is to review the characteristics of special needs patients, including oral manifestations and how to manage the patient in the dental setting.

OBJECTIVES

At the end of the course the student will be able to:

- Define the characteristics of patients diagnosed with Autism, Down's Syndrome, and Cerebral palsy
- Describe oral manifestations characteristic of these patients
- Learn behavior management techniques used to treat these patients
- Have a better understanding of why dental treatment of these patients require more attention and care.

THE SPECIAL NEEDS PATIENT

- In the United States, special needs is a term used in clinical diagnosis and functional development to describe individuals who require assistance for disabilities that may be medical, mental or psychological.

WHAT IS "SPECIAL NEEDS"?

- Autism
- Cerebral palsy
- Hearing Impaired
- Blind
- Abused
- Orphaned
- Mentally Retarded
- Developmentally Delayed
- Wheel chair Bound
- Developmental syndromes
- Cleft Palate
- ADHD
- Medically Compromised
- Down's Syndrome
- Others

Early Identification

- Know the signs
- Conditions are treatable
- Children do not 'outgrow' symptoms
- Early diagnosis and intervention lead to improved outcomes
- Differential Diagnosis:
  - Medical conditions or syndromes present symptoms that are confusingly similar to other conditions

Differential Diagnosis

- Cornelia deLange syndrome
- Tourette's syndrome
- Fragile X syndrome
- Williams Syndrome
- Down's syndrome
- Tuberous Sclerosis
- Congenital Rubella Syndrome
- Untreated Phenylketonuria(PKU)
- Prader-Willi Syndrome
- Lesch-Nyhan yndrom
- Landau-Kleffner Syndrome
- Autism/ASD

Slide 7

ol1 In the United States, special needs is a term used in clinical diagnostic and functional development to describe individuals who require assistance for disabilities that may be medical, mental, or psychological.

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Differential Diagnosis

- **Medical diagnosis**
  - By a physician
  - Diagnosis made by an assessment of symptoms and diagnostic tests
  - Diagnosis of Autism spectrum disorder
- **Educational determination**
  - Multidisciplinary evaluation team
  - School professionals and parents
  - Determines if child qualifies for special and related services Disabilities education (IDEA)

Early intervention can considerably improve children's long-term development and social behaviors.

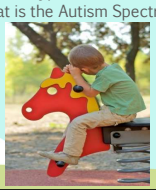
The AAP remains committed to providing its member pediatricians with the tools and training appropriate to identify children with DISABILITIES and refer them to receive treatment and services.

Management

- Review medical history
- List of medications/ Purpose
- Consult with Physician
- Speak with parent/care provider for hints on how to manage patient
- Examine patient for treatment needs

AUTISM

- What type of disorder is Autism?
- What is the Autism Spectrum Disorder



Autism / Autism Spectrum Disorder

- Autism is a brain disorder in which communication and interaction with others are difficult.
- The symptoms of autism may range from total lack of communication with others to difficulty in understanding others' feelings.
- Because of the range of symptoms, this condition is now called autism spectrum disorder (ASD).

What Is Autism?

- Complex disorders, of brain development (social impairments, communication difficulties, restricted, repetitive, and stereotyped patterns of behavior).
- Occurs in all ethnic and SEC groups, all ages
- Males 4x more likely than women

What causes Autism?

- There is no one cause:
  - Rare gene changes, mutations
  - Combination of autism risk genes and environmental factors influencing brain development
  - Environmental factors
  - Chromosome IX

High-functioning autism (HFA) is at one end of the ASD spectrum. Signs and symptoms are less severe than with other forms of autism

Three Main types of ASD

- Asperger's Syndrome
- Pervasive Developmental disorder
- Autistic disorder

ASPERGERS SYNDROME

- As children with AS enter adulthood, though, they are at high risk for anxiety and depression.
- The mildest form of autism, Asperger's syndrome (AS) affects boys more often than girls.
- Children with AS frequently have normal to above average intelligence
- Referred as "high-functioning autism."

What causes HFA and AS?

Autism runs in families.

- Inherited genetic conditions
- Other medical problems
- Environmental factors

Higher levels of anxiety, depression, obsessive-compulsive disorder, and Tourette's syndrome as well as other tic disorders often occur in families of autistic children.

EARLY WARNING SIGNS

Young infants are very social, so it's possible to detect signs of autism in how babies interact with their world. At this age, a child with an ASD may:

- Fails to turn to a mother's voice
- Does not respond to his own name
- Does not look people in the eye
- Have no babbling or pointing by age one
- No smile or response to social cues from others

Contact the doctor right away with any concerns.

Characteristics

- Diagnosed at less than 3 years of age
- Impairment of multiple non-verbal and verbal communication skills
- Failure to develop social relationships and share interests

ORAL MANIFESTATIONS

- Poor oral hygiene
- Increase incidence of dental caries
- Caution caregivers about medicines that may contain sugar
- Daily use of antimicrobial agent such as chlorhexidine

BEHAVIOR MANAGEMENT

- Explain each procedure at a level the patient can understand
- Use short, clear instructions and speak directly to the patient
- Minimize distractions, such as sights, sounds

- Oral conscious sedation
- Nitrous oxide analgesia
- IV/General Anesthesia
- Physical restraints
- Distractions: ipad, videos, earphones

Immobilization Devices

Use immobilization techniques only when absolutely necessary to protect the patient and staff during dental treatment--not as a convenience.

Cerebral Palsy

Cerebral Palsy

Cerebral palsy (CP) is a group of disorders that can involve brain and nervous system functions, such as movement, learning, hearing, seeing, and thinking.

There are several different types of cerebral palsy, including spastic, dyskinetic, ataxic, hypotonic, and mixed.

Characteristics

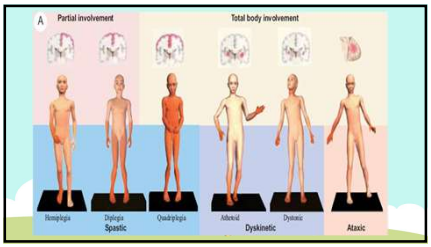
- Abnormal muscle tone, reflexes, or motor development and coordination.
- Joint and bone deformities and contractures (permanently fixed, tight muscles and joints).
- The classical symptoms are spasticities, spasms, other involuntary movements (e.g., facial gestures),

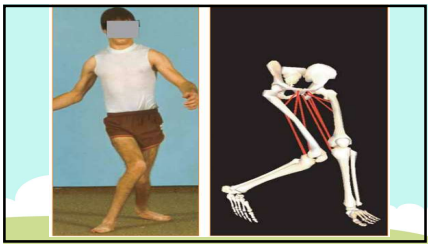
Spastic

- **Spastic cerebral palsy, or cerebral palsy where spasticity (muscle tightness) is the exclusive or almost-exclusive impairment present,**
- **Most common type of overall cerebral palsy. occurring in about 70% of all cases.**
- **Hypertonia is essentially a neuromuscular mobility impairment v. hypotonia**

CHARACTERISTICS

- **Ataxia**: stiff or tight muscles with exaggerated reflexes-
- **Spasticity**: exaggerated reflexes- walking with one foot or leg dragging;
- **A crouched gait**, or a "scissored" gait (Knees crossing)
- **Muscle tone** is either too stiff or too loose
- **Toe walking** (gait reminiscent of a marionette)





Language

- Speech problems are associated with poor respiratory control, laryngeal and velopharyngeal dysfunction
- Oral articulation disorders are due to restricted movement in the oral-facial muscles.

Language delay is associated with problems of intellectual disability, hearing impairment, and learned helplessness.

Children with cerebral palsy are at risk of learned helplessness and becoming passive communicators, initiating little communication.

Spasticity and an abnormal gait can hinder proper and/or full bone and skeletal development.

People with CP tend to be shorter in height than the average person because their bones are not allowed to grow to their full potential.

Sometimes bones grow to different lengths, so the person may have one leg longer than the other.

Eating

Those with CP may have difficulty preparing food, holding utensils, or chewing and swallowing due to sensory and motor impairments.

An infant with CP may not be able to suck, swallow or chew.

Causes

Cerebral palsy is due to damage occurring to the developing brain.

This damage can occur during pregnancy, delivery, the first month of life, or less commonly in early childhood

Exact causes are unclear, the events that lead to cerebral palsy may occur during pregnancy, delivery, the first month of life, or–less commonly–in early childhood.

More than three fourths of cases are believed to result from issues that occur during pregnancy.

Age of Diagnosis

- The age at which CP is diagnosed is important, Disagreement exists over what is the best age to make the diagnosis.
- **The earlier CP is diagnosed correctly, the better the opportunities are to provide the child with physical and educational help**
- **CP can be confused with another problem, especially if the child is 18 months of age or younger.**

MEDICAL TREATMENT

Occupational therapy and physical therapy regimens of assisted stretching, strengthening, functional tasks, and/or targeted physical activity and exercise are usually the chief ways to keep spastic CP well-managed

Therapy

- Physical Therapy
- Speech Therapy
- Conductive education
- Biofeedback
- Massage Therapy
- Occupational Therapy
- Other

Dental Management of Patient

- TLC
- Medical Clearance
- Take meds as usual
- Suction at side
- Treat patient in wheelchair v. dental chair

- Children with cerebral palsy may demonstrate self-injurious behavior, including: tongue, cheek, and lip biting; finger, arm and hand chewing.
- Drooling is not due to excessive production of saliva, but to a poor and disorganized swallowing pattern.
- Clenching, grinding and gnashing of teeth is a frequent finding in children with cerebral palsy.

Down Syndrome Patients

Down Syndrome (*Trisomy 21)

- Down syndrome is a chromosome disorder associated with an extra chromosome (Trisomy 21) resulting in intellectual disability and specific physical features
- Prevalence: <1%
- Clinical Manifestations: Delayed growth, intellectual disability

During the 20th century, many were institutionalized Many died in infancy or early adulthood

Lejeune, 1959 reported that Down Syndrome was the result of an extra chromosome

Gaultier (French) was awarded the claim of an extra chromosome

Condition became known as Trisomy 21

Typically, the nucleus of each cell contains 23 pairs of chromosomes, half of which are inherited from each parent. Down syndrome occurs when an individual has a full or partial extra copy of chromosome 21.

Instead of the usual 46 chromosomes present in each cell, 47 are observed in the cells of individuals with Down syndrome. It was later determined that an extra partial or whole copy of chromosome 21 results.

Down Syndrome

- Hypodontia, microdontia Macroglossia, fissured and protruding tongue
- Tongue thrust, bruxism, clenching, mouth breathing
- Hypoplasia of mid-facial region

Down Syndrome

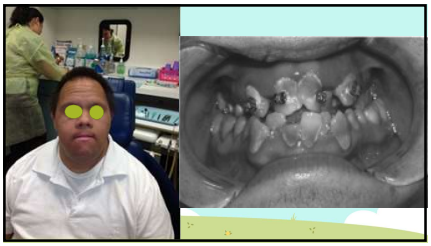
Clinical Manifestations:
-Vision and hearing problems
-Cardiac defects: VSD, ASD, PDA (patent ductus arteriosus), Tetralogy of Fallot

Physical features: brachycephalic, small low-set ears, reduced muscle tone, pelvic dysplasia, broad hands and feet, short fingers

- Mental capacity 8 or 9 year old
- Low set ears
- Small chin
- Short neck
- Broad, flat face
- Short stature
- Increased risk of obesity
- IQ range from 20-70

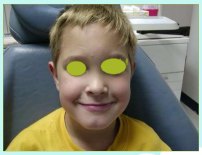
Down Syndrome

- **Oral Manifestations**:
- Early on-set severe periodontal disease
- Lower incidence of dental caries
- Delayed eruption of permanent teeth, malocclusion
- Congenitally missing and malformed teeth
- Hypoplasia of mid-facial region



Other potential disorders

- Epilepsy
- Cardiac defects
- Compromised immune system
- Sleep Apnea
- Increased risk of leukemia
- Hearing Loss
- Vision Problems
- Hypothyroidism
- Autism



BEHAVIORAL

Many Children with Down Syndrome can be treated in the dental office
Behavioral Guidance: Plan a pre-appointment to discuss patient's special need prior to the first visit.
Schedule appointment in the morning or the best time of day for the patient
Talk with the parent or caregiver to determine the patient's level of intellectual and functional ability

Treating the DS patient

- Explain each procedure at a level the patient can understand
- Use short, clear instructions and speak directly to the patient
- Minimize distractions, such as sights, sounds

Start oral exam slowly using fingers at first then adding dental tools

Use Tell-Show-Do when introducing new instruments or procedures

- Use Tell-Show-Do when introducing new instruments or procedures
- Reward cooperative behavior with positive reinforcement
- Develop trust and consistency between the dental staff and the patient
- Use same staff, operatory, and appointment time if appropriate

Dental Treatment and Prevention

- Consider patient's cardiac status and need for pre-medication, consult may be needed
- These patients usually have low caries risk, rapid accumulation of calculus, hypersensitivity, and are at high risk of aspiration in the dental chair

Associated Medical Conditions/Positioning

- Increased gag reflux during oral examination
- Chronic respiratory infections and open mouth posture
- Mouthbreathing ---xerostomia
- Patients with atlanto-axial instability: move carefully
- into dental chair, giving special attention to the spine and neck.
- Use pillows to stabilize and increase comfort, as needed.

Patient Management

MANAGEMENT OF SPECIAL NEEDS PATIENT FOR DENTAL TREATMENT

- Sedation
- IV/General Anesthesia
- Behavior modification
- TLC
- Patience
- Immobilization devices

Parent/Caregiver Support

- Discuss if antibiotics are needed for dental treatment
- Discourage consumption of cariogenic foods and beverages
- Prescribe sugar-free meds if available
- Recommend preventive measures such as topical Fl- and sealants

Physical Abuse

- Presents as oral trauma
- Abuse is reported more frequently in people with developmental disabilities than in the general population.
- Suspicion that a child is being abused or neglected: State laws require that the Child Protective Services agency is contacted.

Assistance from the Childhelp® National Child Abuse Hotline at (800) 422-4453 or the Child Welfare Information Gateway (http://www.childwelfare)

Oral Habits

Damaging oral habits are common:

- Bruxism
- Tongue thrust
- Self-injurious behavior such as picking at the gingiva or biting the lips
- Pica--eating objects and substances such as gravel, cigarette butts, or pens

Treatment: mouth guard if tolerated, for patients with self-injurious behavior or bruxism.

Dental Caries

- Risk increases in patients who have a preference for soft, sticky, or sweet foods; damaging oral habits; and difficulty brushing and flossing.
- **Strategy**: Recommend preventive measures such as fluorides and sealants.
- Caution patients or their caregivers about medicines that reduce saliva or contain sugar.

PERIODONTAL DISEASE

- Occurs in people with special needs in much the same way it does in persons without developmental disabilities.
- Some patients benefit from the daily use of an antimicrobial agent such as chlorhexidine.
- Stress the importance of oral hygiene and frequent prophylaxis.

SUMMARY

COMMUNICATION

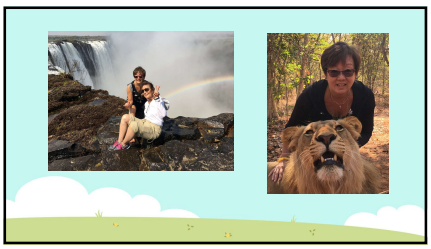
- Communication and mental capabilities are major concerns when treating people with developmental disabilities.
- Talk with the parent or caregiver to determine the patient's intellectual and functional abilities, and then communicate with the patient at a level he or she can understand.

Strategies for Care

- The invasive nature of oral care may trigger violent and self-injurious behavior such as temper tantrums or head banging.
- Some patients may refuse to sit in the chair and choose instead to sit on the operator's stool.
- Use a toothbrush to brush the teeth and gain additional access to the patient's mouth.

- When the patient is prepared for treatment, make the appointment short and positive.
- Keep dental instruments out of sight and light out of your patient's eyes.
- Praise and reinforce good behavior after each step of a procedure.


DENTAL TRAINING SCHOOL
LUSAKA




NAMASTE