SPECIAL NEEDS PATIENT: DENTAL CONSIDERATIONS AND CARE

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Special Needs Patients

- Who Are People with Disabilities? Anyone of any age can have a disability. People of all races and ethnicities can have disabilities. People with disabilities live throughout the United States, in towns, cities, and rural areas. People with disabilities go to school and attend places of worship. They also vote, marry, have children, work, and play. To do all these things, people with disabilities need health care and health programs for the same reasons anyone else does to stay well, active, and a part of the

- erom a car cras cor another mental illne e multiple sclerosis 2 diabete

- rom glaucoma. It people in different ways. And the same disability can affect

The Patient With Special Health Care Needs

- "Handicapped Person" = Any person who "has a physical or mental impairment which substantially limits one or more major life activities such as caring for one's self, or performing such normal tasks as walking, seeing, hearing, speaking, breathing, learning, and working."

The Special Patient

- Several revisions have led to what is now found in 29 U.S.C.A. §706:
 "[I]ndividual with a disability means ... Any person who (i) has a physical or mental impairment which substantially limits one or more of such person's major life activities, (ii) has a record of such impairment, or (iii) is regarded as having such an impairment."

The Special Patient

- Amputation, arthritis, autism, blindness, burn injury, cancer, cerebral palsy, cystic fibrosis, deafness, head injury, heart disease, hemiplegia, hemophilia, respiratory or pulmonary dysfunction, intellectual disability, mental illness, multiple sclerosis, muscular dystrophy, musculoskeletal disorders, . . .

The Special Patient

- - ... Neurological disorders (including stroke and epilepsy), paraplegia, quadriplegia and other spinal conditions, sickle cell anemia, specific learning disabilities, end-stage renal disease, or another disability or combination of disabilities determined . . . to cause substantial functional limitation."

The Special Patient

• 19.3% are considered to be disabled □ 54 million disabled U.S. citizens • 1.09 million disabled Marylanders

Dental Care For The Disabled **Barriers to Care**

- Lack of trained personnel
- Lack of support for training
- Lack of recognition of the importance of oral health
- Difficulties in physical access Stiefel, DJ. 2002

The Special Patient

The Cost of Care

- Healthcare for the disabled is Medicaid's most costly function
- Although PSHCN make up only 14% of Medicaid recipients, they consume about 37% of Medicaid expenditures
 Medicare now pays for virtually all renal dialysis in the U.S.

Disability Prevalence

iritis or rheumatism (17.5%)* ko r spine problems (16.5%) rdiovascular and Heart Disease (7.8%) g or respiratory problems (4.7%) afness or hearing problems (4.4%) b or extremity stiffness (4.2%) ntal or emotional problems (3.7%) ss or vision problems (3.4%) bone or fracture (2.1%) ual disability (mental retardation)** %) cer (1.9%) blood pressure (1.7%) d or spinal cord injury (1.1%)

Dental Care For The Disabled

- Why is dental care for the disabled so limited?

 - Dental services are expensive
 - Disabled persons have lower employment and lower incomes than the general population
 - Medicaid provides only limited dental services and many dentists refuse to participate in Medicaid because reimbursement is so low

Dental Care For The Disabled

- The common thread is dependency
- Young special needs children, adult disabled and the frail elderly require assistance :
 Transportation
 How and where dental care will be obtained
 Benefit from routine oral hygiene and preventive

 - care

 Correlate to poverty and inadequate health coverage

Dental Care For The Disabled

- Why is dental care for the disabled so limited?
 - Lack of willing and able providers
 - Fear and apprehension of Dental personnel
 - Fear of causing harm to the patient
 Fear of lack of ability to provide competent care in view of the patient's disabling condition
 Fear of professional liability

 - Fear of personal injury from some patients

Dental Care for the Disabled

- 2005 HRSA "Dental and interdisciplinary workforce approaches to oral health for vulnerable and SN populations"
- "people who suffer from both health and social liabilities experience the least access to care, highest levels of treatment difficulty, the greatest disease burden, and the most intense consequences of poor oral health"

PECIAL CARE DENTISTRY WILL INCLUDE A

William Osler ,MD. "Treat the patient with the disease not the disease the patient has"

Special Care Patients Examples

- Cardiovascular disease patients
- Bleeding and clotting disorders
- Psychiatric disorders
- Disabled veterans, and war injuries
- Developmental disabilities

Summarizing Challenges

- Acceptance of treatment e.g. mobility, comprehension, tolerance, or cooperation
- Response to treatment and ability to receive treatment: e.g. need for antibiotics, drug adjustment or unfavorable tissue response (bleeding)
- Risk for disease: e.g. xerostomia, inability to perform OH
- □ Intraoral complications: e.g. muscular dysfunction, swallowing, limited opening.

THE FIVE ESSENTIAL CONCEPTS OF **DEVELOPMENTAL MEDICINE**

- Neurodevelopmental Dysfunction Underlying Neurodevelopmental Disorder Complications of Neurodevelopmental Dysfunction
- Health Consequences Syndrome Specific Conditions



ntellectual Disability Down Syndrome Autism Cerebral Palsy

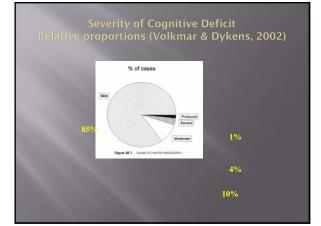
Intellectual Disability: An Overview

- A wide range of developmental conditions classified as a disorder by virtue of a significant cognitive impairment (below-average intelligence) coupled with deficits in adaptive functioning.
- Approximately 1-3% of all people in the United States
- There are many different causes for intellectual disability, and huge variations in degree of impairment and presence or absence of a wide range of behavioral, emotional, or medical problems.

ntellectual Disability : DSM IV Axis II

- A. <u>Significantly below average intellectual functioning</u>: an IQ of approximately 70 or below on an individually administered IQ test.
- B. Concurrent deficits or impairments in present adaptive functioning (i.e., the person's effectiveness in meeting the standards expected for his or her age by his or her cultural group) in at least two of the following areas: communication, self-care, home living, social/interpersonal skills, work, leisure, health, and safety.
- C. The onset is before age 18.

- <u>Moderate</u> IQ 35-40 to 50-55
- Profound IQ below 20-25
- Intellectual Disability, Severity Unspecified
 When there is strong presumption of ID, but the person's intelligence is untestable.



- 3% of the population has an IQ two or more standard deviations below the mean.
- 2-3% of school-age children are classified as ID
 Because they have poor adaptation to the academic demands of school
- Only about 1% of the adult population is actually classified as ID.
 Because they have adequate adaptive skills to live independently in the community.

- 30-70% of people with ID have co-morbid psychiatric disorder.
- ID greatly complicates the process of psychiatric diagnosis, because of difficulty in communication and in conceptualizing symptoms and their antecedent context.
- "Diagnostic Overshadowing"
 A common mistaken tendency to regard all abnormal behavior in persons with ID as due to the ID
 Leads to failure to recognize, properly diagnose, and treat psychiatric disorders in this population

- Normal distribution of standardized IQ tests theoretically indicates that about 3% of people should have IQ's below 70.
- IQ below 70 is an arbitrary definition of the cognitive deficit in ID.
- Biological causes have been identified for an ever-growing percentage of cases of mental retardation within the 3% lower extreme of the normal distribution of IQ's.

- Psychosocial adversity: extreme poverty, severely disrupted childhood, lack of educational opportunity
- Exogenous: biologically mediated
 Prenatal
 Perinatal
 postnatal

Prenatal Etiologies

- Prenatal
 Fetal alcohol syndrome
 Infection (rubella, toxoplasmosis, cytomegalovirus, herpes simplex, hepatitis, HIV)
 Substance use
 Teratogens, medicine side effects
 Environmental toxins
 Poor maternal diet

Perinatal and Postnatal Etiologies

- Perinatal
 Perinatal adversity or poor care
 Prematurity
 Increased salvage of very premature infants, who develop with cognitive and learning disabilities

- Postnatal
 Malnutrition and other dietary deficiencies (iodine)
 Extreme early neglect

Genetic Etiologies

More than 750 known genetic causes Inherited single gene disorders Mutations Deletions Chromosomal aneuploidy, heteroploidy Chromosomal translocations Non-inherited chromosomal microdeletions

Phenotypes

- Complex disorders of behavior and cognition with known genetic etiologies that can be reliably diagnosed by laboratory tests.
 Many have associated medical problems, anatomic malformations, or dysmorphic features.
- While these conditions are IQ lowering, not all people who have them are intellectually disabled.
- The number of genetic neurobehavioral disability phenotypes being recognized and diagnosed is growing.

Common Neurobehavioral Phenotypes:1

- Single gene triplicate repeat mutation, X chromosome
 ID
 Hyperactivity, gaze aversion, shyness, and social anxiety

- Trisomy 21 (non-disjunction during gamete formation)
 ID, with relative strength in visuospatial skills, and impaired expressive language
 ADHD and Oppositional Defiant Disorder common

Examples of Common Neurobehavioral Phenotypes:2

- Velocardiofacial Syndrome
 Hemizygous 22q11.2 chromosomal microdeletion
 Mean IQ 70
 Characteristic learning disability
 Attention problems, anxiety, and mood lability
 30% develop Schizophrenia in adulthood.
- Williams Syndrome
 Chromosome 7 microdeleletion
 ID
 Excellent Verbal Skills
 Hypersociability

ORAL CARE FOR PERSONS WITH INTELLECTUAL DISABILITIES

Data indicate that persons with ID have more untreated caries and higher prevalence of periodontal problems than the general population

ORAL CARE FOR PERSONS WITH INTELLECTUAL DISABILITY

Periodontal disease: Medications ,malocclusion, multiple disabilities and poor oral hygiene combine to increase risk

Strategies for Care

- Encourage independence on oral hygiene
- Involve caregiver if independence is compromised
- Use of antimicrobials e.g. Chlorhexidine , and appropriate delivery. Rinsing may not be best. Alternative, spray or toothbrush.
- Awareness of other meds and importance of daily oral hygiene

Dental Caries Strategies for Care

- Diet and noncariogenic foods. Note: food is often used as a behavioral control by caregiver.
- If taking medicines cause xerostomia, stress drinking more water. Sugar free medications, and to be sure to rinse following dosing.
- Fluoride and sealants as preventive measures

Malocclusion

- Prevalence similar to general population
- Exception, CP and DS
- Not necessarily a barrier to treatment
- Ability of patient or care giver to maintain oral hygiene.
- Don't lower expectations.
- Quality of life can improve with self-image.

Damaging Oral Habits

- Bruxism
- Mouth breathing
- Tongue thrusting
- Picking at gingiva
- Biting lips
- 🗉 Pica

Trauma and Injury

- Falls or accidents
- Physical abuse
- State laws protect
- Educate caregiver

Health Challenges

- Mental
- Behavior
- Physical
- Cerebral Palsy
- Seizure
- Hearing loss

Physical Challenges

- Clear paths for movement in treatment setting
- Place in center of treatment chair. Pillows on either side to bolster and support
- Be familiar with wheel chair transfer techniques
- Be prepared to treat in their wheelchair.
 - Note, other physical modifications may be covered in other lectures (see wheelchair transfer technique "Practical Oral Care for People with Developmental Disabilities." www.nidcr.nih.gov)

Behavioral Challenges

- Talk with caregiver and/or physician about techniques found to be effective
- Schedule early in day
- Keep appointments short
- Allow extra time
- Use caregiver to support comfort and communication
- Consider sedation
- Immobilization techniques only as last resort.

Mental Challenges

- Team approach, Staff briefing
- Reduce distractions
- Talk with parent or caregiver to familiarize with patients abilities
- Address patient directly. "Talk to me"
- Be consistent
- Keep instructions simple
- Listen actively. Show understanding, respect, and be sensitive to method of communication

DEVELOPMENTAL DISABILITIES

Down Syndrome

Autism Cerebral Palsy Intellectual Disability

ORAL CARE FOR PEOPLE WITH DOWN SYNDROME

Early professional treatment and daily oral care at home can allow people with Down Syndrome to enjoy benefits of a healthy mouth.

Definition

First described by John Langdon Hayden Down in

 A syndrome of phenotypic abnormalities that occur as a result of chromosomal translocation during gametogenesis yielding an individual with trisomy of the autosome #21.

 The normal human has twenty-three chromosome pairs: 22 pairs of autosomes and one pair of sex chromosomes.

The Down syndrome patient has 21 normal autosome pairs, one autosomal triplet (21G), and a pair of sex chromosomes.

Incidence & Prevalence

- Incidence: 1:660-700 live births
- Prevalence: 2/1,000 U.S. Population
- Incidence is <u>directly proportional to maternal</u> <u>age:</u>

□ 15-29 yrs 1	1:1500
□ 30-34 yrs	1:800
□ 40-44 yrs	1:100
• Over 44 yrs	1:50

General Phenotypic Characteristics

- Pelvic dysplasia waddling gait
- Flat facies with low-set ears & sloping forehead
- Slanting palpebral fissures (mongoloid eyes)
- Medial epicanthal folds
- Brachycephaly with flat occiput
 Hypotonia
- Hyperflexibility
- Hand anomalies: clinodactyly, simian crease

General Phenotypic Characteristics

- Mental retardation: rarely with an I.Q. > 50

 - I.Q. range 20-80But social development is usually greater than or equal to the mental age
- Impaired cell-mediated immunity

 - Impaired leukocyte antimicrobial activity
 Predisposition to infections

 Frequent and recurrent URIs
 Increased susceptibility to periodontal disease

General Phenotypic Characteristics

- Increased incidence of Hepatitis B
- Cardiac anomalies (VSD & ASD)
 - Cardiovascular disease in older lifeShortened lifespan

Oral Manifestations

- Angles Class III skeletal malocclusion
 Aplasia/hypoplasia of the maxilla
 Deficient vertical anterior growth of the maxillae
 Palate of normal height, but narrow, and often with prominent rugae and lateral processes
 Mandibles with oblique gonial angles, with sloping mentum leading to double chin
- Bilateral dental crossbites

Oral Manifestations

- - True microdontia, predominantly in the mesio-distal dimension
- Saliva changes which may be the cause of decreased prevalence of dental caries
- Severe periodontal disease secondary to decreased leukocyte chemotactic ability

Intellectual Disability and Down Syndrome

- Wide variation in level of ID –many have mild to moderate which limits ability to learn, communicate and adapt
- Language development is delayed
- Can understand more than can verbalize
- Daily living can be challenging and frustrating

Strategy for Care

- Listen actively, be patient and take time
- Prepare by talking with parent or caregiver to determine intellectual and functional abilities
- Allow time for patient to process information
- Keep instructions simple and concrete

Behavior Management

- □ Can be warm and well behaved, and very
- Caregiver/Parent can provide insight in patients personality and motivation
- Schedule early in day
- Do things in stepwise approach and be consistent at each visit
- Tell show do
- Immobilization is last resort.

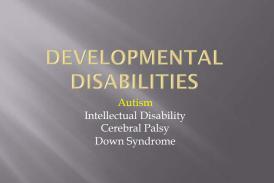
Medical Conditions

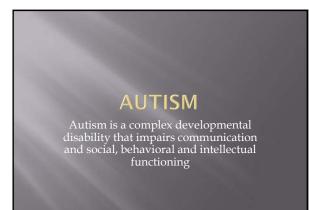
- Life expectancy has risen and increase of conditions related age increased as well. Cardiac Disorders are common-(Mitral valve prolapse) Compromised Immune Systems (Aphthous Ulcers, Candida, ANUG,) Chronic Respiratory infections) Hypotonia can affect mastication, swallowing, drooling, and speaking. Also AAI (Atlanto Axial Instability) Seizures

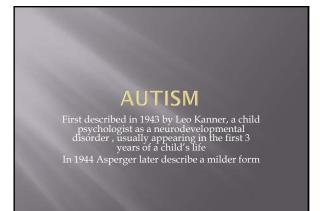
Oral Health Problems

- Periodontal Disease
- Dental Caries
- Orofacial feature
- Malocclusion
- Dental Anomalies
- Trauma and Injury











Autism is a Phenotype

• A clinical diagnosis not biologic, and is genetic but also may be environmental, such as prenatal condition.

Possible Etiology

Not entirely known and no single cause has been identified, however: Fragile X Tuberous Sclerosis

- Tuberous Sclerosis Prenatal factors including intrauterine rubella, cytomegalic inclusion disease and FAS Postnatal factors including untreated phenylketonuria, and, Some concerns have arisen over rubella(MMR vaccine. Anecdotal evidence linking ASD to the preservative (Thymerasol) has not been confirmed in clinical studies (CDC) IOM, (and discredited)

ASD

Identical Twins have 75 percent concordance in developing autism

- Subsequent children of parents with autistic child have between 2-8% likelihood of a second child with autism

Autism Spectrum Disorder ASD

- In recent years variations in behavior patterns have become apparent creating the so-called Pervasive Development Disorder Umbrella
 - Classic Autism, most severe with likely ID
 PDD-NOS -(Not otherwise specified)

 - Asperger's Syndrome, relatively normal language skills, decreased ability to show empathy, and unusual interests that are pursued with great intensity. (Words are taken literally) "Raining cats and dogs". Not associated with ID and may be very intelligent.
 Rett Syndrome with higher incidence in girls.

ASD Incidence

■ Classic autism occurs in males 4:1 vs. females. Current findings dispute the orginal estimate of 5 /10,000 because of wider definition and the entire spectrum of disorders the CDC has reported incidence as high as 1/250 births.

Diagnostic Signs in Early Childhood

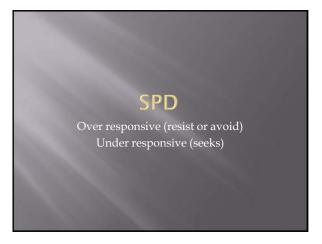
- Lack of babbling or gesturing by age 1 yr.
- Lacks eye contact with mother by 1 yr
- Resistance to being held or cuddling by mother
- Non responsive to name
- Non verbal , single words by 16 mo.
- Two word together by age 2
- General screening is strongly indicated .
- Early intervention , while not a cure, can increase potential for development.

SENSORY PROCESS DISORDER

Modulation Discrimination Sensory –Based Movement



Inability to perform voluntary purposeful movement. (this has very important role in dental management.)



SPD

- Touch -aversion, wiping, kissing,
- Olfactory perfume, cologne, smell of materials
- Texture- avoid crunch, rough
- Proprioceptive -open, close, tongue
- Vestibular head position, Visual -lights
- Auditory -music, drillsTaste -"white diet, bland,

SPD

Touch- mouthing, food pocketing Taste –spicy, strong, salty Proprioception-Proximity –crowds in, s Visual-lights,

Autism Summary

- Aloof, distant or detached from other people or
- Inappropriate reaction to verbal or social cues
- Obsessive routines, repetitive behaviors ,unpredictable body movements, and self-injurious behavior may be symptoms that complicate dental care.
- May be accompanied by co-existing disabilities such as ID or seizures.

Examples of Autistic Behavioral Characteristics Summary

- Impaired social skills
- Echolalia (Repeating everything said to them)
- Sensorimotor deficiencies
- Limited interactive language skills
- Seizure disorders
- ID ID
- Stereotypic behavior
- Self-injurious
- Problems with symbolic thinking



Oral Sensory Profile Dental Visit Preparation

Desensitizing Office Visits

Oral Sensory Profile

- Diet This can be a clue to under or over responsiveness
- Oral Aversions- kiss, wipe, utensils,
- Oral Seeking- mouthing, biting, grinding, pocketing.
- Other sensory- smells, lights, noise, crowds.
- Vocalization

Communication Problems and Intellectual Assesment

- Talk with parent or caregiver to assess intellectual and functional abilities. In some cases there is no mental retardation or disability. When ID is present, most are in the mild to moderate range. Adjust level of communication to patient
- Use tell-show-do approach to care . Use

Behavior Management

- Can include hyper activity and frustration
- Desensitizing appointment
- Make future appointment short and positive
- Attention to treatment setting, distractions like light and instruments should be out of sight
- Praise and reinforce good behavior
- Least restrictive approach, encourage bringing comfort items e.g. stuffed animal
- Immobilization is last resort!

Behavior

- Pharmacological options when other techniques fail. Caution, unpredictable reactions may occur to medications.
- (40% antidepressants,30% antipsychotic, 40% stimulants ,30% anticonvulsant and other classes, i.e. mood stabilizers)
 General Anesthesia may be needed of behavior is not managed.
- Be aware of tendency of perseveration which is the continuous, meaningless repetition of words, phrases, sounds or movements. Tell-Show-Do may trigger.

Responses to Stimuli

- May be acutely sensitive to changes in environment.
- Sensitive to light, color, sound, or touch
- Be consistent with staff, operatory and appointment time
- Minimize distractions.
- Allow time for patient to adjust and desensitize
- Talk to caregiver to get impression of patient's level of tolerance of physical contact.

Unpredictable Body Movement

- Path from waiting room to operatory and chair are clear and limited distractions
- Observe movements an assess patterns
- Anticipate movements and adjust to patient.

Seizures

- Consult with physician. Gain information on frequency and severity and medications that are being administered.
- Adjust appointment time and check if meds have been taken.
- Be aware of events or stimuli that trigger patients seizures.

Oral Care for People with Autism Challenges and Strategies for Care

- Communication Problems and intellectual assessment
- Behavior Problems
- Response to stimuli
- Unusual and unpredictable body movement
- Seizures

Dental Caries

- Risk increases due to preference for soft, sticky or sweet foods. Particularly used as behavior control. Recommend gradual alternatives.
- Fluoride and sealants.
- Caution about meds that reduce saliva or contain sugar.
- Encourage independence in daily oral hygiene
- If this repetitive activity can be encouraged, this is a good thing

Oral Care Problems to be Considered

- Periodontal disease
- Damaging Oral Habits
- Trauma and Injury

Recommended reading and supplement

- The neuropathology, medical management and dental implications of autism. Arthur H. Friedlander, DMD, John A Yagiela, DDS, PhD, et. al. JADA, Vol. 137,No 11,1517-1527
- Addressing Dental Care for Individuals with Autistic Disorders. Hosted by Dr. David Tesini and Dr. Clive Friedman. (Proceedings of the International Symposium, Alberta, Canada, August 2004).
- Dr. Andrew Zimmerman from the KKI , Center on Autism and Related Disorders.

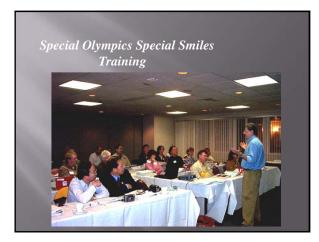
The Role of Special Olympics Healthy Athletes

Special Olympics Healthy Athletes
1996 formal relationship to the SO
Includes: Hearing, Vision, Health Promotion, Fitness, Podiatry, and Dental
100 screening events worldwide in 2001
Over 600 events planned in 2006
140 Special Smiles Events



Special Olympics Special Smiles Objectives

- Oral screening, assessment, mouth guards, counseling, and referral.
- Oral heath education to athlete, parent, coach,
- Opportunity to see significant numbers of persons with ID for the dental professional
- Change lives.





Special Olympics Special Smiles Hands On Experience













